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SPECIAL EDITION

# CYCLE GUIDE

**SPECIAL EDITION:**
Fairing Buyer's Guide

**BMW R65:**
Bavarian Cream

**Husqvarna 430CR:**
World-class at last

Virago

**EXCLUSIVE TEST!**

## Yamaha's controversial vee-twin 750

***The ultimate and inevitable Special***

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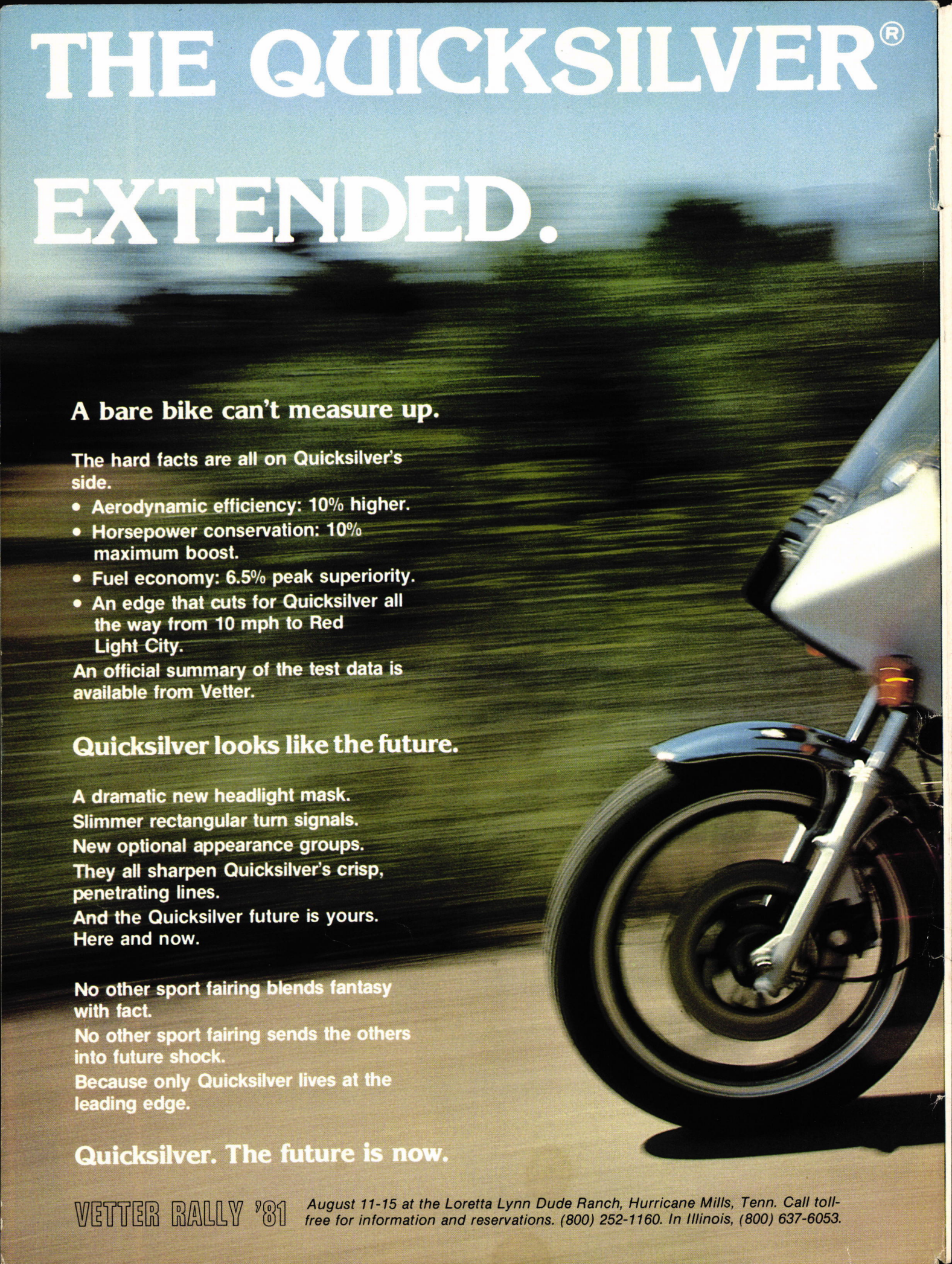
# EXTENDED.



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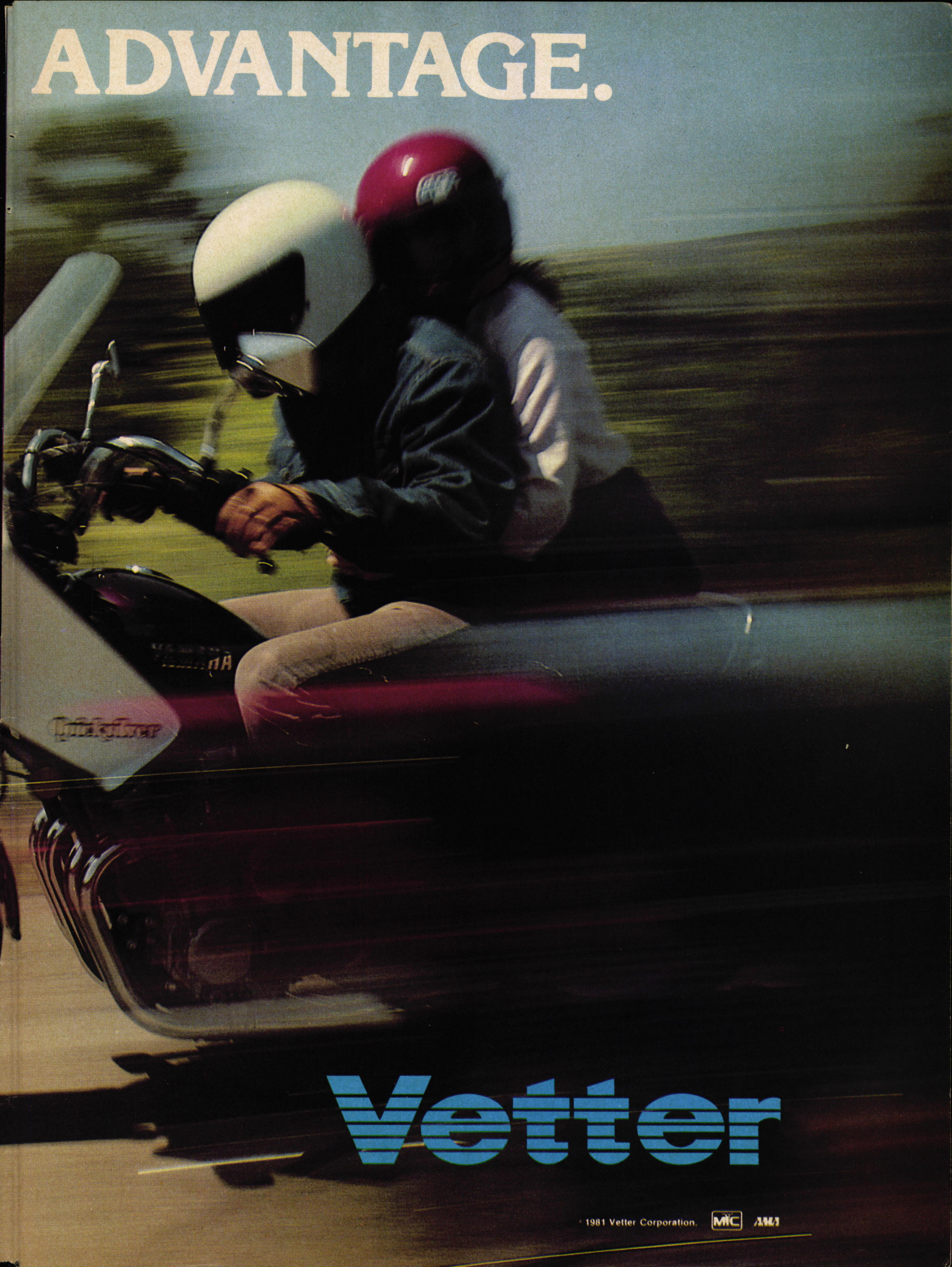
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The choice is yours. A compromise. Or The Set-Up. For the demanding rider, the choice is obvious.

# THE SET-UP by Vetter

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**COVER:**
Virago by Yamaha, neon by David Clark, photo by Chris Eastman, design by Gilbert Luna—call it teamwork.

**QUOTE:**
"Here it comes. A one-two punch to America's solar plexus. A knock-out blow. . ." **Pg. 49**

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# CYCLE GUIDE'S CYCLE GUIDE

## OFF-ROAD

| MAKE & MODEL | ISSUE | ENGINE TYPE | WHEEL TRAVEL, IN. FRONT/REAR | WEIGHT, LBS | HORSEPOWER @ RPM* | | GEARS |
|---|---|---|---|---|---|---|---|
| Can-Am 250 MX-5 | Jan. '79 | Two-str. | 10.8/10.0 | 218 | 32.1 | 8500 | 5 |
| Can-Am 250 Qualifier III | Feb. '80 | Two-str. | 9.7/9.8 | 230 | 25.2 | 8000 | 6 |
| Cam-Am 400 MX-6 | June '80 | Two-str. | 11.5/10.8 | 233 | 38.3 | 6500 | 5 |
| Honda CR125R | Jan. '80 | Two-str. | 11.5/10.8 | 202 | 20.8 | 10500 | 6 |
| Honda CR250R | May '80 | Two-str. | 11.8/11.0 | 222 | 27.5 | 7000 | 5 |
| Honda CR450R | Feb. '81 | Two-str. | 11.0/12.5 | 236 | NA | NA | 4 |
| Honda XL185 | March '79 | Four-str. | 7.4/6.75 | 239 | 11.2 | 7500 | 5 |
| Honda XR185 | March '79 | Four-str. | 8.0/7.75 | 221 | 12.8 | 10000 | 6 |
| Honda XR500 | May '79 | Four-str. | 8.5/8.6 | 273 | 25.8 | 6500 | 5 |
| Husqvarna 125CR-'80 | Nov. '79 | Two-str. | 11.8/11.8 | 214 | 18.8 | 11000 | 6 |
| Husqvarna 250CR | Dec. '78 | Two-str. | 11.8/11.8 | 227 | 24.3 | 8500 | 6 |
| Husqvarna 250WR | Aug. '79 | Two-str. | 9.5/9.5 | 238 | 21.9 | 6500 | 6 |
| Husqvarna 420AXC | Oct. '80 | Two-str. | 11.5/11.9 | 239 | NA | NA | 4 |
| Kawasaki KLX250 | Sept. '79 | Four-str. | 9.8/10.5 | 239 | 15.2 | 8500 | 5 |
| Kawasaki KDX175 | Dec. '80 | Two-str. | 9.6/9.8 | 222 | 15.3 | 8500 | 6 |
| Kawasaki KX125 A7 | Jan. '81 | Two-str. | 10.4/11.3 | 207 | 20.9 | 12000 | 6 |
| Kawasaki KX250 | Sept. '80 | Two-str. | 11.3/11.2 | 233 | 26.8 | 8000 | 5 |
| Kawasaki KX420 | July '80 | Two-str. | 11.0/11.3 | 250 | 34.0 | 7000 | 5 |
| Maico 400 MI | April '80 | Two-str. | 12.3/12.0 | 233 | 35.5 | 7000 | 5 |
| Maico 450 MI | April '80 | Two-str. | 12.3/12.0 | 236 | 37.0 | 7000 | 5 |
| Montesa Cappra 414 VE | Oct. '79 | Two-str. | 10.9/10.7 | 236 | 28.5 | 6500 | 4 |
| Suzuki PE400 | Nov. '80 | Two-str. | 11.3/11.3 | 250 | 30.9 | 7000 | 5 |
| Suzuki RM125T | Dec. '79 | Two-str. | 11.2/11.7 | 200 | 19.8 | 10500 | 6 |
| Suzuki RM250N | May '79 | Two-str. | 11.2/11.8 | 218 | 27.1 | 8000 | 5 |
| Suzuki RM400N | Sept. '79 | Two-str. | 11.2/11.8 | 229 | 28.1 | 7500 | 5 |
| Yamaha Pro-Tec 600 | Nov. '79 | Four-str. | 10.5/10.1 | 262 | 46.2 | 6500 | 5 |
| Yamaha IT250G | Dec. '79 | Two-str. | 9.8/9.8 | 244 | 27.7 | 8000 | 6 |
| Yamaha TT250G | Aug. '80 | Four-str. | 8.8/7.5 | 242 | 17.7 | 8000 | 5 |
| Yamaha YZ250G | March '80 | Two-str. | 11.2/11.6 | 217 | 29.6 | 8000 | 6 |
| Yamaha YZ465G | July '80 | Two-str. | 11.2/11.8 | 228 | 39.4 | 7000 | 5 |

*Horsepower shown is taken at the rear wheel and does not account for transmission losses between the engine and rear wheel. These results may differ from manufacturer's claims or from results obtained using a different dynamometer.

## STREET

| MAKE & MODEL | ISSUE | ENGINE TYPE* | QUARTER-MILE, SEC./MPH | TOP SPEED, MPH | WEIGHT, LBS | FUEL CONSUMPTION, MPG | STOPPING DISTANCE FROM 60 MPH, FT. |
|---|---|---|---|---|---|---|---|
| BMW R100T (Dressed) | Aug. '79 | 2C/G | 13.81/92.9 | 119 | 521 | 38-53 | 142 |
| Ducati Darmah | Sept. '78 | 90-deg. 2D/F | 13.41/97.5 | 118 | 487 | 25-40 | 120 |
| Dunstall-Suzuki GS1000 CS | July '79 | 4A/F | 11.32/117.0 | 154 | 488 | 37-.5 | 124 |
| H-D CLE Sidecar | Sept. '79 | 45-deg. 2D/F | 17.60/69.3 | 91 | 1036 | 25-35 | 181 |
| H-D Tour Glide | Sept. '80 | 45-deg. 2D/F | 15.58/83.9 | 108 | 785 | 35-44 | 223 |
| Honda CB400T Hawk | March '80 | 2A/F | 14.37/88.6 | 100 | 391 | 51-65 | 139 |
| Honda CX500 Custom | Aug. '79 | 80-deg. 2E/G | 14.12/92.9 | 102 | 468 | 44-51 | 146 |
| Honda CB650 | Feb. '79 | 4A/F | 13.29/99.9 | 113 | 447 | 37-51 | 131 |
| Honda CB650 Custom | Dec. '79 | 4A/F | 13.10/99.8 | 113 | 447 | 44-52 | 131 |
| Honda CB750F | Oct. '79 | 4A/F | 12.41/106.8 | 128 | 524 | 31-52 | 135 |
| Honda CB750C | Nov. '80 | 4A/F | 12.68/105.3 | 128 | 530 | 39-46 | 131 |
| Honda CB900C | June '80 | 4A/G | 12.44/107.9 | 132 | 588 | 37-44 | 155 |
| Honda Interstate | March '80 | 4C/G | 13.40/96.0 | 121 | 718 | 33-45 | 146 |
| Honda CBX | Dec. '79 | 6A/F | 11.86/114.5 | 130 | 555 | 19-36 | 145 |
| Kawasaki KZ440D | Feb. '81 | 2A/F | 14.59/89.1 | 107 | 383 | 56-64 | 135 |
| Kawasaki KZ550 | Sept. '80 | 4A/F | 13.45/97.1 | 103 | 426 | 37-51 | 150 |
| Kawasaki KZ650 Custom | May '79 | 4A/F | 13.16/100.2 | 116 | 483 | 45-49 | 125 |
| Kawasaki KZ750 | May '80 | 4A/F | 12.50/107.8 | 127 | 471 | 39-50 | 134 |
| Kawasaki KZ1000J | Feb. '81 | 4A/F | 11.62/116.3 | 130 | 521 | 30-51 | 135 |
| Kawasaki KZ1000 Shaft | Aug. '80 | 4A/G | 12.19/112.2 | 132 | 582 | 32-44 | 129 |
| Kawasaki Z1-R | April '80 | 4A/F | 12.24/110.6 | 130 | 552 | 35-48 | 131 |
| Kawasaki KZ1300A GT | Sept. '80 | 6A/G | 12.71/107.4 | 135 | 730 | 31-45 | 146 |
| Laverda 1200 Jota | Dec. '78 | 3A/F | 12.54/105.0 | 121 | 518 | 29-37 | 145 |
| R.C. Turbo CB750F | Oct. '80 | 4A/F | 11.99/113.8 | NA | 523 | 27-39 | 135 |
| Suzuki GS450 ST | May '80 | 2A/F | 14.09/92.5 | 100 | 397 | 55-57 | 127 |
| Suzuki GS750ET | July '80 | 4A/F | 12.62/105.5 | 122 | 523 | 39-55 | 130 |
| Suzuki GS850N | March '79 | 4A/G | 12.81/104.0 | 116 | 566 | 35-45 | 153 |
| Suzuki GS1000E | Aug. '80 | 4A/F | 11.98/113.9 | 136 | 528 | 32-50 | 137 |
| Suzuki GS1000G | Aug. '80 | 4A/G | 12.34/110.8 | 139 | 564 | 30-51 | 141 |
| Suzuki GS1100ET | April '80 | 4A/F | 11.43/118.3 | 140 | 544 | 37-49 | 116 |
| Triumph Bonneville Special | July '79 | 2A/F | 13.94/96.2 | 110 | 411 | 45-55 | 175 |
| Yamaha RD350LC | Dec. '80 | Two-str. 2/AF | 13.23/101.0 | 113 | 328 | NA | 126 |
| Yamaha XJ650 Maxim I | June '80 | 4A/G | 12.60/107.4 | 120 | 453 | 40-54 | 128 |
| Yamaha XJ650 | Nov. '80 | 4A/G | 13.19/102.4 | 125 | 476 | 43-44 | NA |
| Yamaha TZ750E | April '79 | Two-str. 4A/F | 11.62/125.5 | 180 | 331 | NA | NA |
| Yamaha XS850LG | Feb. '80 | 3A/G | 13.10/101.7 | 116 | 548 | 42-55 | 144 |
| Yamaha XS1100LH | Jan. '81 | 4A/G | 11.99/113.5 | 130 | 562 | 41-46 | 133 |

*A-Transverse Vertical, B-Vertical, (single-cylinder only), C-Horizontally Opposed, D-Tandem Vee, E-Transverse Vee, /F-Chain Final Drive, /G-Shaft Final Drive, /H-Belt Final Drive


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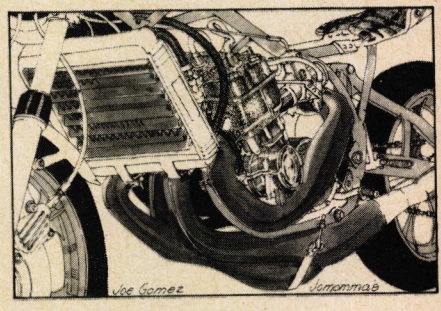


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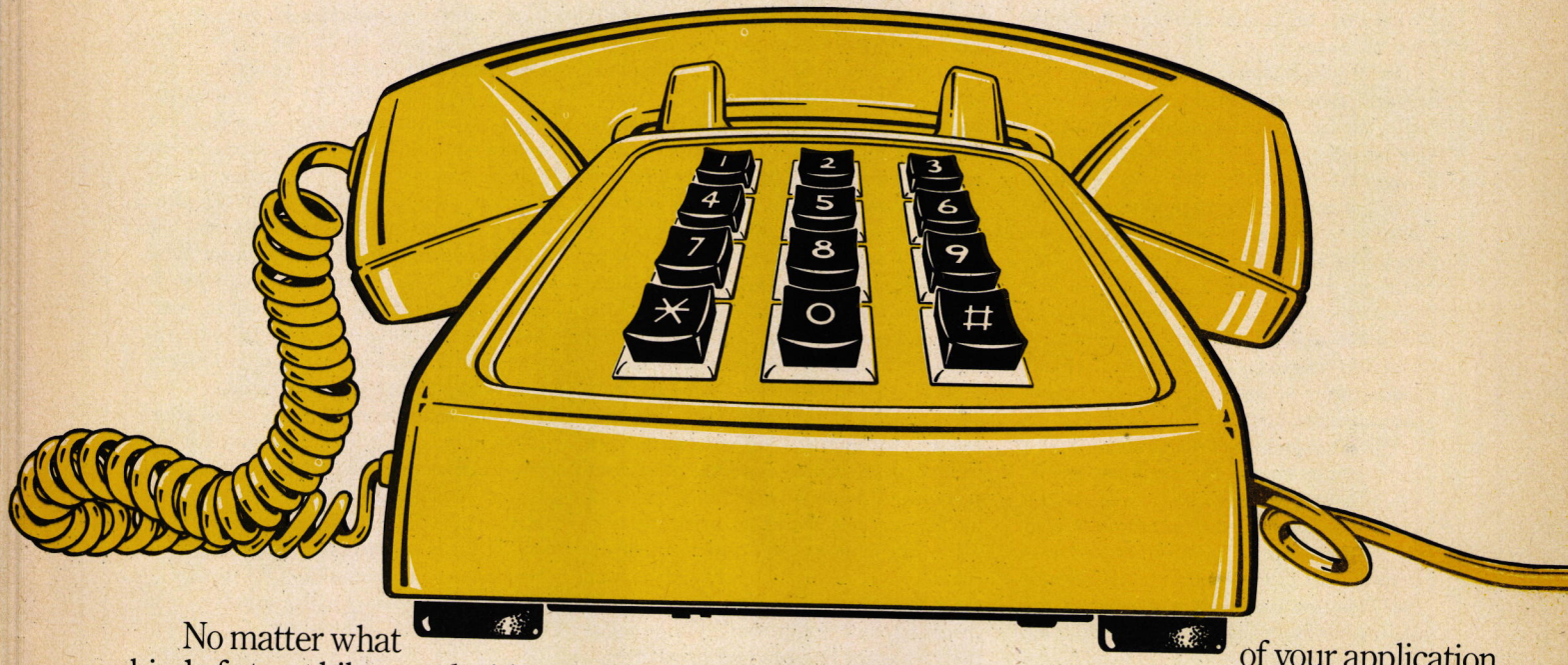


No matter what kind of street bike you decide to buy, it's only going to go as fast as you can get insurance.

All the more reason to make sure it's a Yamaha.

Yamaha has teamed up with K&K Insurance Agency Inc., the same company that administers insurance programs for the American Motorcycle Association, Sports Car Club of America, NASCAR and the National Hot Rod Association.

Together, we've devised an insurance coverage program for new Yamaha owners that offers competitive rates and a variety of options. It's as easy as a phone call, and just as fast.

Once you've picked out your Yamaha at any participating dealership, you simply pick up the phone, dial a toll-free number and give the K&K representative your particulars.

K&K will assign you a coverage verification number which makes your insurance effective immediately. You're guaranteed protection for you and your motorcycle for 30 days, or until the underwriting of your application is finalized. Should you need evidence of coverage for loan applications and registering your bike, K&K will supply that, too.

So you can roll your new Yamaha off the showroom floor and ride it home the same day.

Of all the high-tech specs to keep in mind when you're shopping for a motorcycle, don't forget this one:

Only Yamaha street bikes go from 0-to-insured in seconds.

**YAMAHA**

*When you know how they're built.*

Availability subject to state insurance council approval.

# Editorial

## Dealing with the, uh, Problem

*Is it the price of motorcycles, or the cost of motorcycling?*

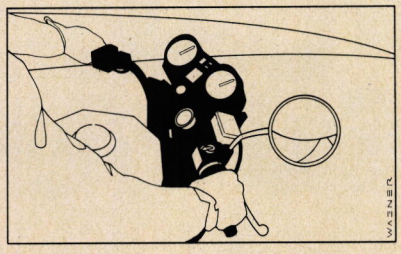
• And now a comment about the, uh, problem. The, uh, problem is whispered about in the hallways of the motorcycle industry and referred to with embarrassment in the board rooms of Harley-Davidson, Honda, Kawasaki, Suzuki and Yamaha. It's as if motorcycles have suddenly developed a terrible case of bad breath and nobody wants to talk about it. The symptoms of the problem are all around us. Interest rates rise, then money gets tight, showroom traffic dwindles and then warehouses fill up. What's the, uh, problem? Well, motorcycles cost too much.

As any stroll through a motorcycle store reveals, we're riding a rising price spiral, despite the fact that motorcycle manufacturers have trimmed their profit margins. No longer is the $2000 motorcycle discussed with fear and loathing by product planners. Of more interest is the price resistance generated by $4000 and $6000 bikes. As a result, we've reached a juncture in the motorcycle's evolution, for the question of price has more to do with the making of your bike these days than anything EPA administrators or product liability lawyers can throw at you.

The consequences of such a sudden price spiral can be deadly. For example, American bike manufacturers thrived before World War I because the motorcycle offered the most economical form of private transportation. But the low-cost car arrived with the Twenties, siphoning away all but the die-hard motorcycle enthusiasts. And so, the American motorcycle industry withered up and blew away in a dust storm of bankruptcies. A boomlet in motorcycle sales shortly after World War II ended the same way. Even today, sales of pure transpobikes reach prodigious numbers only in countries where automobile travel is far too expensive.

Motorcycle owners apparently are very sensitive to price. Bikes still are regarded as luxury items, not transportation. So the fires of buying-fever flare in direct proportion to the amount of loose change in the prospective purchaser's pocket. As soon as the bank must be brought into the transaction, enthusiasm flickers and begins to die. The boom and bust of '73 and '74, much less that of '79 and '80, illustrate that once tight money demands real sacrifices in order to purchase bikes, sales decline.

For some time the motocross market has shown evidence of this same phenomenon.



The latest hi-tech bon-bon costs too much for the average weekend warrior to swallow; but since trips to victory circle demand the latest tricks, the average rider has no choice but to drop out of racing. The bike builders attempt to cope with this problem by paring their profit margins to the very bone, producing motocross bikes for their image-making potential and writing any losses off against advertising. Yet even this strategy reaches a point of diminishing returns, for while the manufacturers might be now at the break-even point, the bikes are *still* too expensive for the majority of racers. Soon the Japanese dirt-bike builders will find themselves actually subsidizing the sport.

The same phenomenon seems likely to overtake the street-bike field. The lifeblood of all motorcycles, after all, is new technology. And these days, the price of research and development, much less new tooling, staggers the imagination. As it is, we've just experienced a few years of extremely rapid change thanks to edicts from the EPA complicating the usual cut-and-thrust of inter-brand competition. Yet as the price of the latest hi-tech breakthrough rises, more riders are eliminated from the potential audience. The CX500 Turbo, for example, worries Honda because it may push the boundaries of technology too far, to a point where people unable to afford it will be so disappointed that they will drop out of motorcycling altogether. The next step in technology may be so rarified that it will be impossible to move more riders up the ladder and sell these bikes of increasing sophistication and price.

And that's what could lead us into trouble. On the one hand, you can continue the thrust towards ever more sophisticated technology and better rides, and pay the price—higher costs and fewer riders. On the other, you can settle for a long period of stable technology and increased emphasis on cost effectiveness—a couple years of great bikes, that gradually become good bikes and then average bikes. And you have to admit that settling for less than the best certainly goes against the grain.

It could be that the heart of the problem lies with us, the enthusiasts, rather than the bike builders. Maybe we have not yet fully realized that a great motorcycle is nothing less than the Pearl of Great Price, a quantity so excellent that almost any price is justified. After all, when it comes to racing bikes, how much is first place worth? And with street bikes, how much does the boulevard charger of your dreams cost? Considering the thrills they offer, motorcycles remain a bargain compared to $15,000 Porsches. If motorcycling is really at the core of your life, you'll be prepared to cut back on peanut butter and lawn fertilizer before you think about compromising the sort of bike you ride. Motorcycles are just too important to let money get in the way.

But you can no longer expect that the motorcycle industry will support our habit with an endless parade of hi-tech bikes. It seems likely that major portions of the market will stabilize, perpetuating certain engine configurations over long periods of time—like the 11-year-old Yamaha 650cc twin—in order to make motorcycles affordable to great numbers of people. It is the mass market, after all, that subsidizes the techno-junkie's habit. So not only will great hi-tech bikes become more expensive, there will be fewer of them. It's the only solution that will insure the health of the industry.

In this magazine, you can expect to read about Great Bargains as well as Pearls of Great Price. We feel it's our responsibility to offer that choice. But if you expect us to rail against the rising price of good rides, you'll probably be disappointed. Sure, we can tell you the good from the bad, but only you can decide just how much a bike is worth. For our part, we reckon there's actually a lot of room for high-priced bikes in the world of the full-on enthusiast. That's because we're performance-oriented. And the question of how good a bike is strikes us as more important than splitting hairs over its pricetag.

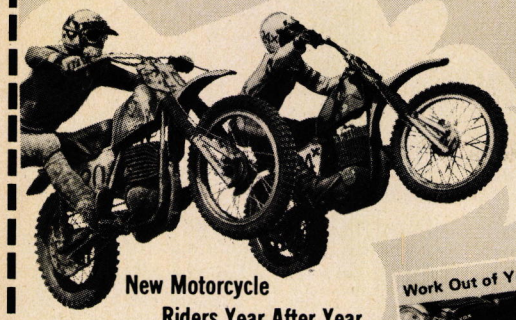
We look at the, uh, problem this way. A bad motorcycle isn't worth $1.49. And a great one is worth $50,000, your sister and two future draft choices. In this era of rising prices, the real issue isn't the cost of motorcycles, but the cost of motorcycling itself. You must ask yourself "Is it worth it?" Our answer is Yes. We'll pay the price.

*—Michael Jordan*

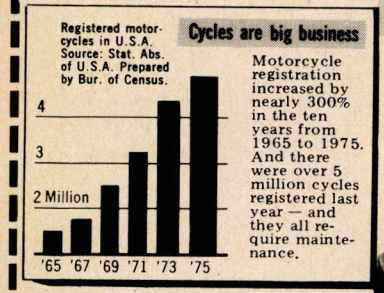
# Now YOU Can Be A MOTORCYCLE MECHANIC

LEARN AT HOME IN SPARE TIME WITH NO PREVIOUS EXPERIENCE

***Experts show you what to do, how to do it... guide you every step of the way to become a skilled motorcycle mechanic.***



**New Motorcycle Riders Year After Year**




**Cycles are big business**

Motorcycle registration increased by nearly 300% in the ten years from 1965 to 1975. And there were over 5 million cycles registered last year — and they all require maintenance.

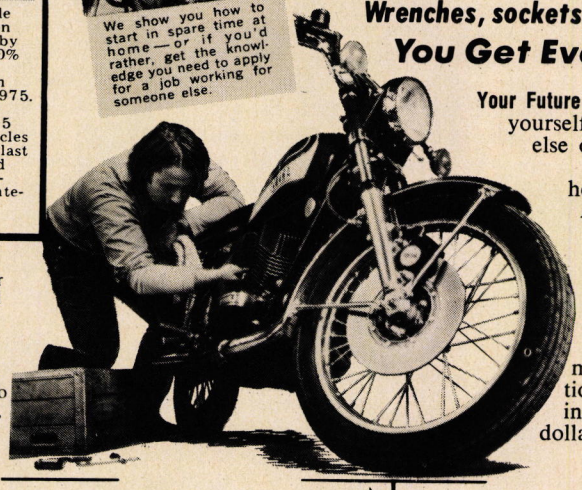
**Work Out of Your Home**

We show you how to start in spare time at home — or if you'd rather, get the knowledge you need to apply for a job working for someone else.

**If you like to ride a bike for fun . . . learn how to fix it for profit! Can you imagine a better way to earn your living whether you choose to work in a cycle shop for somebody else or decide to start your own cycle repair business. Now, thanks to North American, there's a fast, easy way to get training at home in your spare time. No need to quit school or job. Experts show you step-by-step everything from minor tune-ups to major overhauls.**

***Wrenches, sockets, test instruments and more...***

***You Get Everything for a Fast Start!***



**Your Future is in Your Own Hands** — You can decide for yourself whether you want to work for someone else or get into your own cycle repair business. Start in your spare time repairing cycles at home—or get a job with a motorcycle shop! After you've been a working mechanic, you can decide whether you want to start your own repair business.

**You'll Be the Center of Attraction in Your Circle of Friends**—Enjoy the admiration of friends and neighbors as they flock around to watch you tear down and tune up all kinds of motorcycles. And just think of the satisfaction in knowing you've got the best performing bike in town. Plus, you can make extra dollars fixing motorcycles for friends, neighbors.

**Motorcycle Shops Employ Qualified Mechanics.** Has your bike ever been out of action waiting for needed repairs? Some shops don't have enough mechanics to take care of everyone as fast as they like.

Graduation from this course does not insure that you will get a job. To find out how our graduates have done, send for our job placement record.

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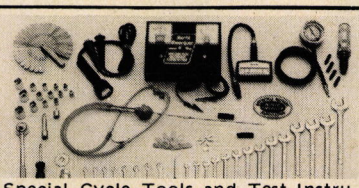

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***Motorcycle Sales Mean Profits for Repairmen***

Cycles are big business . . . and so is fixing them! There are more than 5 million motorcycles registered in the U.S. today. Plus an estimated million more dirt bikes. No wonder there is work for the skilled repairman.

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# Techspeak

## Speed Calculations

*Destroying a myth about math*

• Forget all you were taught about mathematics at school. Calculations don't have to be difficult, irrelevant or boring. When number games are applied to your own motorcycle, they can be fun and rewarding. That is because a little work with numbers can uncover some interesting facts and figures about your bike that would otherwise be unobtainable.

A little math, for example, can help you answer the motorcyclist's age-old question, "what'll she do?" Your bike's speedometer certainly won't answer the question—the Feds have seen to that by restricting us to 85-mph speedometers. But that does not stop us from asking the question—which is where number games come in. A few calculations will allow you to beat the system and convert your tachometer into a speedometer with 160-mph capability.

With that sort of reward in mind, it is a little easier to swallow the math involved in calibrating your tach for speed. After all, researching a few facts from your owner's manual is much easier than studying a chapter of calculus at school. And all the information you'll need is contained in just a few pages.

To begin with, it is essential to find the overall gear ratio for your bike. Since every engine uses a number of gears to convert crankshaft speed into a single turn of the rear wheel, every single gear ratio between crank and wheel must be included in your calculation. With most motorcycles, that will include primary reduction by gears or chain (connecting the crank with the clutch), reduction by gearbox ratios (connecting the clutch with the output shaft), and final reduction by chain or shaft. Less common are bikes like the Yamaha XS1100 which, in addition to the above, use a jackshaft between crank and clutch and another jackshaft between gearbox and driveshaft. In such bikes, a single turn of the crankshaft undergoes six reductions before the rear tire turns. And each of these reductions must be figured into the overall ratio.

Most owner's manuals will provide the actual ratio of each reduction. Some, however, provide only a tooth count for each pair of gears or sprockets. Figuring the ratio from a pair of gears is simple. Whether it involves a chain-drive bike or a shaft-drive bike, whether you've got straight-cut gears or spiral-bevel gears, the ratio is always the number of teeth on the driven wheel divided by the teeth on the driving wheel. Therefore, a 50-tooth rear-wheel sprocket driven by a 10-tooth countershaft sprocket has a ratio of 50 ÷ 10, or 5.0:1. Similarly, a pair of internal gears with 12 teeth on the output gear and 14 teeth on the drive gear has a ratio of 12 ÷ 14 or 0.857:1.

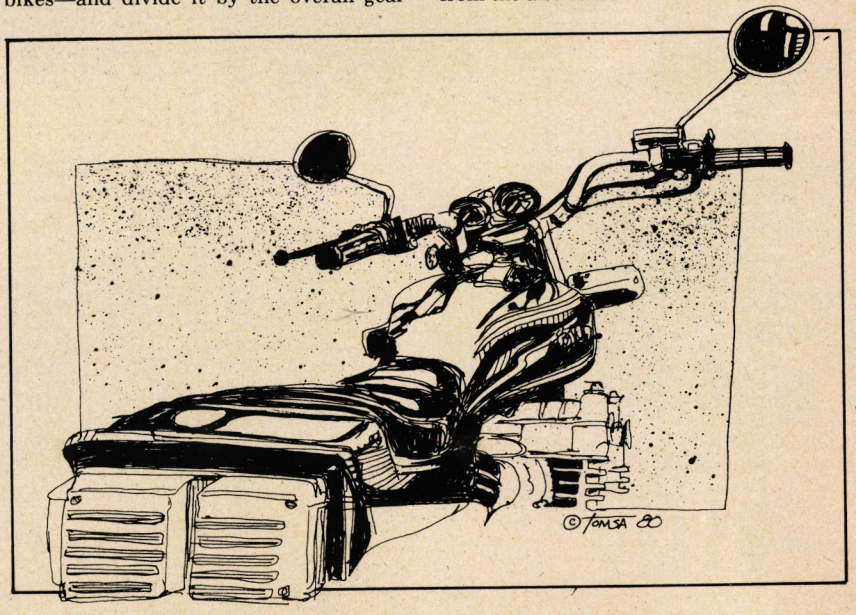
It is fairly easy to organize the primary reduction and the final-drive reduction, but the number of internal gear ratios may confuse you. Don't worry. Throw out all the internal gear ratios except the one you're interested in—for a top-speed run, that is top gear. When you multiply all the reduction ratios between crank and rear wheel together including top gear, you have the overall gear ratio in top gear.

One final item of information must be acquired to get an accurate fix on your motorcycle's top speed, though. You see, the rear tire itself acts just like a gear as far as the motorcycle is concerned, so it too must be added to the equation. The relevant information you need is the tire's circumference. The best way to measure it is to put a small blob of grease on the center of the tread. And by rolling the bike forward through one revolution of the rear tire, you get two blobs of grease on the floor of your garage. The distance between these two marks is the circumference of your rear tire.

Finally, you now have all the information you need to calculate road speed at any given engine rpm in top gear. Simply take the engine rpm you are interested in—which is redline for just about all street bikes—and divide it by the overall gear ratio. This number should in turn be divided by the circumference of the rear wheel. Let's take a Yamaha XS1100 as an example. It has a redline of 8500 rpm, an overall gear ratio in fifth gear of 4.77 and a rear wheel circumference of 76.75 inches. The resulting equation is 8500 ÷ 4.77 × 76.75 = 136766. Now that is *fast*, even for an XS Eleven at redline. Unfortunately, our answer is not yet expressed in miles per hour. Instead we are all messed up with revolutions per minute and inches of tire circumference. Instead of a tedious conversion, we simply divide by a constant of 1056 which does all the work of changing inches per minute to miles per hour. Thus, the equation becomes 8500 ÷ 4.77 × 76.75 ÷ 1056 = 129.5 mph—which is how fast an XS Eleven Special will go if it reaches redline in fifth gear.

Further information can be gleaned from these figures as well. By simply rearranging the equation you can also find how many rpm your engine should turn at a given road speed. By multplying speed, overall gear ratio and the constant 1056 and dividing by tire circumference we find that an XS1000 will turn 6563 rpm at 100mph, or 100 × 4.77 × 1056 ÷ 76.75 = 6563.

Now there is no need to rely upon wild imagination the next time your riding partners discuss the top speeds of their motorcycles. With just a little information and a few strokes of the calculator, you can separate the Land Speed Record candidates from the also-rans. —*David Dewhurst*



# KAWASAKI BREEDS FASTER HORSES.

Our new KZ1000 engine. Bred from the original KZ1000, an engine that Motorcyclist declared "*. . .one of the most successful designs ever developed. Bar none.*"

Now, we've made it even faster. By making it lighter.

For 1981, Kawasaki redesigned this legend from top to bottom, eliminating excess weight without sacrificing strength and dependability.

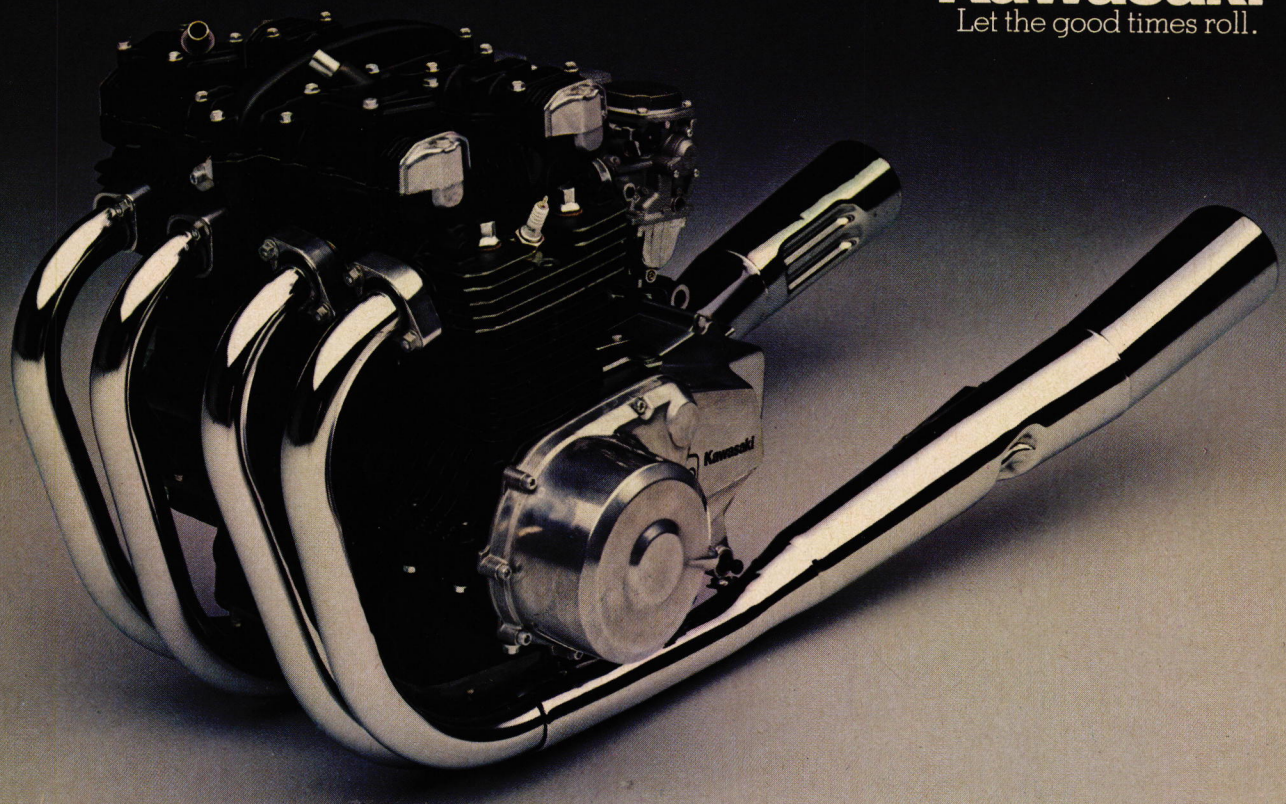
Instead of introducing the top-heavy complexity of four valves per cylinder, we refined our bullet-proof two-valve design. And held down weight and maintenance, too.

Next, we narrowed the engine width, massaged the crankshaft, and said goodbye to the kickstarter. We shed even more weight with aluminum carbs, instead of zinc. An aluminum clutch housing. An ounce here and a gram there.

The bottom line? An engine that nets more power and torque, and is a full 15 pounds lighter.

More good news. We've also applied our "lighter is faster" philosophy to other engines in our street line with equal success. So, after you get tired of watching the competition gain weight, get down to your Kawasaki dealer and see how much more you can gain by losing it.

**Kawasaki**
Let the good times roll.

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Kawasaki believes in riding safely. Check local laws before you ride. Member, AMA and MSF.

# Honda's XR500R.
# The rocks, whoops and competition will never know what hit them.

Before you finish an enduro you've got to face some pretty tough obstacles.

Jagged rocks. Bone-jarring whoop-de-doos. Rain ruts. Stutter bumps. Fallen logs. Not to mention some pretty determined competition.

The four-stroke that can survive all this is something special. The one that can give you a chance to win is even better.

The 1981 Honda XR500R.

## Pro-Link™ suspension, a new way to travel.

If you follow motocross, you're going to recognize the technology on the left.

The Pro-Link™ rear suspension system. It was developed on Honda's World Open and U.S. Open Championship racers and now it's ready for the wide open spaces.

Conventional double (and single) shocks systems have a fixed ratio of shock piston speed relative to rear wheel movement.

Roll over a gentle whoop and the suspension

*Quick release rear wheel.*

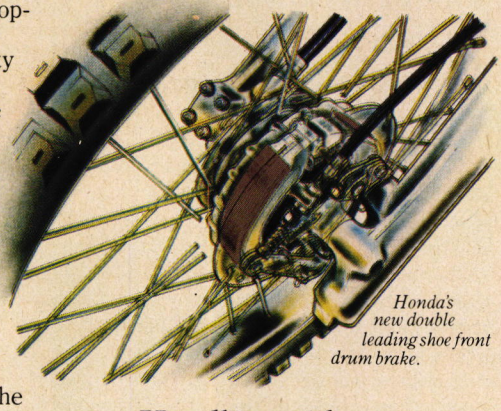
reacts one way. But go off a jump and they don't change their response rate significantly.

The Pro-Link suspension, on the other hand, features Honda's unique linkage between the single adjustable, remote-reservoir gas shock and the rear wheel. And because of this, the spring and damping action between the suspension and the rear wheel becomes progressive—on both compression and rebound.

Now when you jump that jump, the suspension works more efficiently to absorb the impact.

No matter how rough the terrain, the rear wheel spends more time on the ground.

Which gives you a better chance to be on time at the finish.



*Honda's new double leading shoe front drum brake.*

## Handling with care.

Pro-Link suspension isn't the only way Honda has improved handling on the XR500R, however.

In front, there are beefier 37 mm forks, now air-adjustable so you can tune them to match the way you ride.

And in back, a new box section swing arm that pivots on needle bearings for less flex.

Because Pro-Link suspension uses just one shock instead of two, the XR500R is slimmer and easier to flick through turns.

The location of this one shock also helps to centralize the bike's mass and lower its center of gravity.

You'll also find new double leading shoes on the front drum brake.

Because stopping in an enduro is just as important as going.

## The big engine that could.

From California's deserts to Maine's woods, Honda's OHC 498 cc four-stroke single has a reputation for two things:

Stump-pulling torque and power, and rock-like reliability.

It's got Honda's advanced Pentroof™ head with four valves, instead of two, for efficient combustion, capacitor discharge ignition for hot sparks with no maintenance, and dual counter-balancers to smooth out vibration on those 100-milers.

And this year, the XR500R arrives with a Honda reed-valve-assisted induction system. This reed-valve is placed between the carburetor and the intake valves to provide quicker low speed throttle response and more usable low and mid-range power than ever.

*Here's what you get when you match four-stroke power with Pro-Link™ handling.*

## Time for some tricks.

The XR500R comes with a whole set of trick features to keep you riding more, fiddling less.

Like the primary kick starter that eliminates searching for neutral. Or the automatic compression release that makes starting easier.

To help you start on a hill, there's a manual compression release for quick bump starts. The rear wheel uses a new design for quick release.

And there's even a lightweight polyurethane gas tank with an extra large filler neck for extra fast fillups.

With all this going for the XR500R, it's not hard to see that the 1981 model is going to be a lot more than just competitive.

In fact, with the XR500R between you and the ground, there's a strong possibility there won't be anything between you and the finish.

# HONDA

**FOLLOW THE LEADER**

ALWAYS WEAR A HELMET AND EYE PROTECTION. Designed for off-road, operator use only. State laws affecting off-road motorcycles vary. XRs may not meet noise regulations in some states. Installation of high-performance parts may increase XR's decibel rating above legal levels in some states. Check local laws before installation. Specifications and availability subject to change without notice.

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Sizes 6 through 12 .....69.95
Sizes 2 through 5 .....64.95

**2-PIECE TOURING SUIT.** The best two-piece touring suit value you'll find anywhere! Ruggedly constructed to keep you warm with added versatility to let you get more use out of it than any one-piece suit.

Wear the jacket and pants together for maximum warmth or separately to fit your needs.

Color selection is flexible, too. The jacket and pants are sold separately. Each is available in a choice of colors. Pants are silver or black. Jackets are silver with a black yoke or black with a silver yoke.

Windproof and water resistant nylon with heavy fiberfill insulation. Pant legs are cut long to prevent creeping up while riding. Pant legs also feature a full length, non-jamming zipper.

Jacket, S, M, L, XL ..... 64.95
Pants, S, M, L, XL ..... 64.95
Complete Touring Suit, S, M, L, XL .....129.90

**THE GYPSY SCOUT II.** A touring biker's best friend. Big 4 now carries the only top quality, all weather radar detector designed specifically for motorcycles.

The Gypsy Scout II is a tough, shock-resistant, water-resistant radar detector that alerts you to speed traps or mobile radar emitting sources. Plugs into a cigarette lighter socket or hooks up directly to your battery.

This top quality unit gives you a detection range of two to four miles. It emits a loud beep tone, accompanied by a flashing red light that becomes more frequent as the radar source approaches.

And the Gypsy Scout II will pick up not only X and K band radar signals, but also the new Pulse KR-11 radar. A special tuning switch on the unit allows you to tune out low level radar signals or to increase receiver gain. It's even powerful enough to detect radar scatter around curves and over hills. Order No. S990 .....179.95

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# Letters

## *Vee-twin champ, Turbo vamp, Thompson's camp*

### VIRAGO VISIONARY

While you're convincing Yamaha to import a sensible motorcycle you also might try to convince Honda to import their 250cc street single and the 900F2. Then maybe you could so something about those wobblers on the bucko-bar Customs (like get them off the street and into the parking lot where they belong.) Hell, while you're at it, you should abolish the speed limit on freeways, increase the strength of American beer and get disco off the radio. All fooling aside, I think that the bike manufacturers will come around and sell their Euro-only bikes in the U.S., but only after they saturate the market with units that give you a sore back after an hour in the seat.

My current bike is a 1975 H-D XLCH. Don't laugh, it's paid for. It's Euro-style, with flat bars, stiffer suspension, taller gears and softer disc pads. But according to my friendly neighborhood Yamaha dealer (18 kilometers East of Frankfurt, West Germany) they will have a 750cc V-twin on the sales floor in 1981. I've seen the brochure and it's styled like a Eurobike: 55-degree Vee engine, enclosed chain and a mono-shock rear. It appears to be a Japanese Sportster that handles. If they're selling that bike in America, I will buy one.

Kirk Hogle
APO New York

*Check page 49 for the first-ever test of the new Virago, a 75-degree Vee shaftie. And come on home, it's here—ed.*

### GS vs. HAWK

In response to Mr. George Goetz's letter (Nov '80): are you *sure* you're riding the right bike? It sounds to me like you accidentally stumbled into my garage and onto my re-shocked, rebarred, retired, rejetted and remirrored Hawk. Only one problem, you have the price wrong—my '78 model cost me less than your GS450ET by more than $300! The bike was bought new at a super-bargain price because, well, it's ugly. Kinda grows on you, though, especially when you personalize it.

In fact, after a 3000 mile trip on her this summer, I wouldn't give up my shiny little bike for anything. Except: if the XJ650 Yamaha were available in the U.S., my little Hawk would be sold as quickly as I could find a buyer. She wouldn't bring enough though, so I'd have to sell a few other personal items, too. Hmm, I wonder how much I could get for Mom?

J. Clifton Swinford
Lake Oswego, Oregon

*Greater love hath no biker. . . .—ed.*

### CX500 TURBO LUST

I never thought there could be another bike I could love as much as my trusty olde Yamaha 400 until your January '81 issue came out. If I could get my hands on that Honda CX500 Turbo I'd sell my bike, my kids and, yes, even my husband. What a sinfully beautiful bike! It really has some space-age features and touring items that will knock anyone's eyes out. I'd be glad to test it for Honda when they decide to get it out of R&D and into the showroom.

It's almost impossible for a female to find a touring bike that has anything unique unless, of course, she doesn't worry about how to hold up some of the heavier bikes at a stop. I wish they'd hurry up and market this bike so I can get used to the price tag. I'm sure it will be big enough to choke a chicken. But I'd pay the price to own this breakthrough in technology and sex appeal.

Kaye Merritt
Oroville, California

*Greater love hath no biker II—ed.*

### XJ650 FINIS

I just found out how to get a Yamaha XJ650. I bought a 1981 Honda 750F, re-routed the cables and installed BMW S-bars. Ain't nuttin' gonna whup dis sucka aroun' any corner!

Elvis X. Finley, III
Short Hills, New Jersey

### THOMPSON CONS

Steve Thompson's article, "Riding a Rocket" (*CG* December '80), did very little in my opinion to properly credit the honor and glory of all who worked so hard to make the triples sing their beautiful swan song in the waning days of the British motorcycle empire. Admittedly, the article was nothing more than a few quick reflections of "plimping" around Lime Rock, but I can't help but wonder if it simply wasn't a form of free advertising for Mr. Iannucci's so-called "Dick Mann '71 Daytona Winner." Readers of Walneck's *Classicfieds* and *Cycle News* want ads beware! No doubt Mr. Iannucci's bike will come on the market soon.

The final blow was Thompson's repulsive overuse of the totally inappropriate word "Boom." I say "Rubbish!"

Lee K. Shuster
Rochester, New York

### THOMPSON PROS

Many thanks for Steve Thompson's "Riding a Rocket." He had my hands tingling and my ears ringing by the time I reached the end of the article. I can't think of a better way to achieve total hearing loss than to ride one of those British triples.

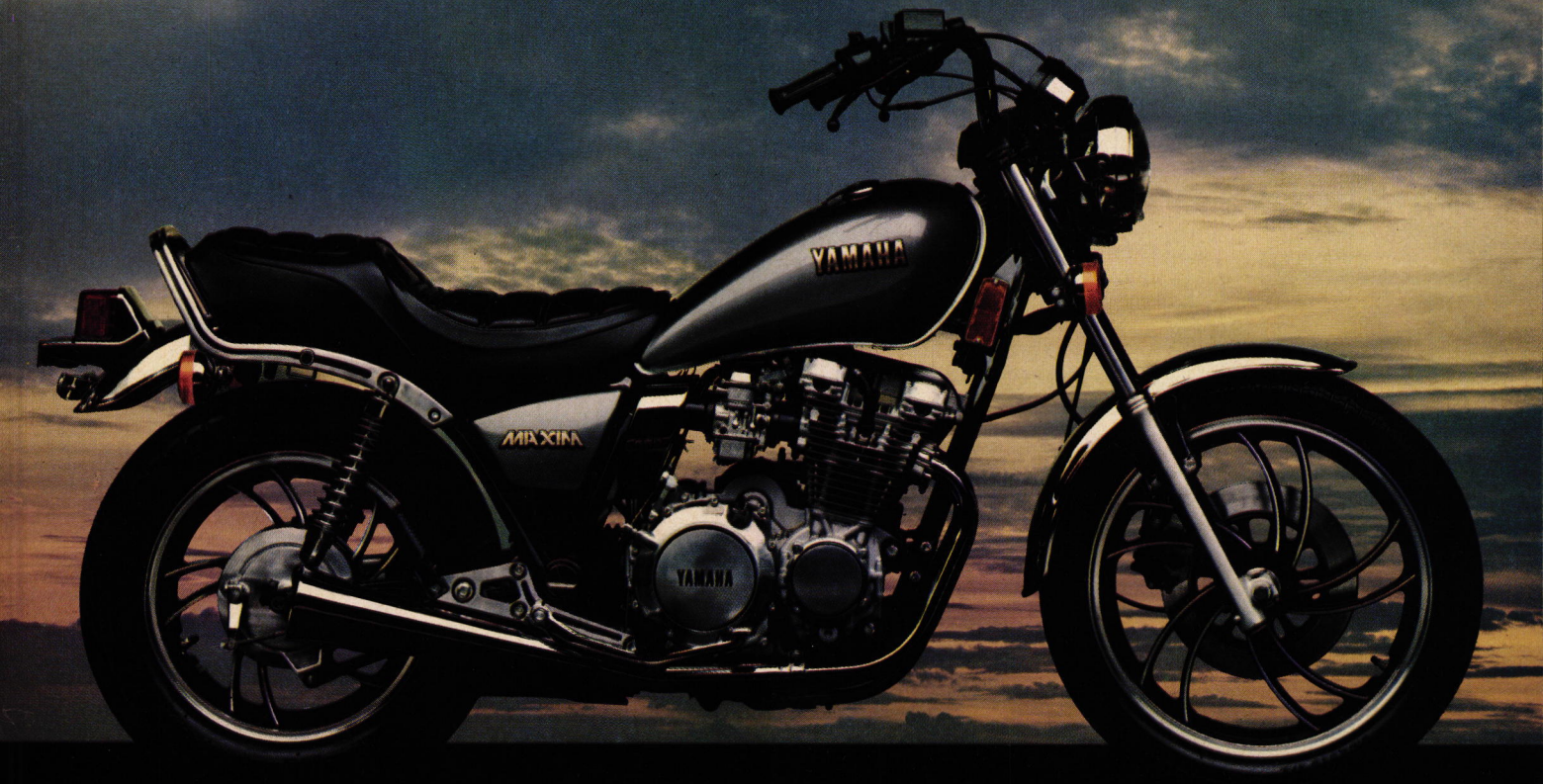
As an incurable Anglophile, and the proud owner of a nearly-restored '69 Bonneville, I greatly appreciated the opportunity to ride the Big Triple, even if it was by proxy. What is it about these machines that makes the palms sweat and the pulse quicken? It defies scientific analysis, but Thompson seems to have found the answer. "Boom," indeed.

If Mr. Iannucci needs someone to keep his bikes clean and polished, I work very cheap.

Bob Shively
USS Constant
San Diego, California

*Thompson works even cheaper —ed.* •

# IF YOU CAN'T DECIDE BETWEEN LOOKS AND PERFORMANCE, DON'T.



# THE MAXIM 650.

Before this bike was ever metal, it was a piece of paper. On it, a list of totally unreasonable demands.

Make it the lightest, the leanest, indeed, the fastest 650cc in-line four ever built. And while you're at it, give it styling every bit as exciting as its astonishing performance.

## A LIGHTWEIGHT WITH A KNOCKOUT PUNCH.

To say the Maxim 650 is the fastest motorcycle in its class is a bit misleading. Capable of covering the quarter mile in 12.6* seconds, it'll challenge a 750. And smoke a few 850s as well.

But show it a curve and you'll quickly discover yet another reward of the Maxim's remarkable light weight.

Honest-to-goodness handling.

Its extremely low center of gravity and excellent steering geometry help create the sensation that the bike is actually an extension of you. A light, effortless responsiveness that is also the contribution of its incredibly narrow engine and very tunable suspension.

The Maxim's clean, quiet, dependable shaft drive is smaller and lighter than conventional shafts.

Those unique spiraled wheels are as strong as conventional, but more importantly, they're lighter—reducing unsprung weight.

Complimenting all this state-of-the-art technology is state-of-the-art styling.

Rather than compromising engineering, a Maxim's looks flow from it—naturally, fluidly integrating the pieces into a striking composition of form and function.

It's hard to believe one motorcycle could be so fast, so light, so lean, and so beautiful.

But isn't that the way it should be?

**YAMAHA**

THE WAY IT SHOULD BE.™

*Rear view mirror(s) standard equipment. Always wear a helmet and eye protection. *Source: Cycle Guide.*

# West's Side

## Counterpuncher

*Going the full nine rounds*

• You slide up the gut of the Esses like a shish-kebab skewer sliding through tender cubes of lamb. The bike weaves the corners together in gentle country-road veering. The Esses are easy.

And that's when you know you have to go faster. Much faster. There are literally yards of unused asphalt, paved forgiveness, left at the exit of each turn. So you try to go faster next lap.

But going faster through the Esses means going faster through blind, right-handed Turn Two just before them, and that isn't easy at all. From Nine up the Riverside front straight through One and along the chute to Two, your throttle is jammed WFO for 15 consecutive seconds. You're tucked in, elbows and knees hugged tight to the bike, the race-prepared KZ550 doing every tick of its 115 mph when you arrive.

But going into Two you can't see a thing. There are only shut-off markers, a bit of striped curbing on the right, broiling desert straight ahead. A high, sandy bluff hides the turn itself. You have no idea where it goes, how much to brake for it, how soon to turn in for the apex. And if you don't make it, the consequences are unthinkable. Going off the outside of Turn Two and careering across the desert floor on a roadracer at 100 mph is the silliest possible thing a man could do.

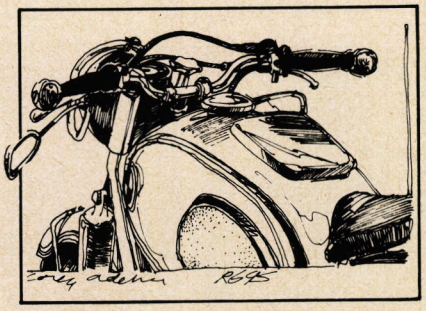
Keith Code never said it would be like this.

In fact, the first hour and a half of the California Superbike School, which Code runs, has been devoted to a very casual, very rambling chalk-talk. Treading deftly between being funny and being serious, Code discusses the basic theories of fast riding, and we all sit there, 24 or so of us, fussing and fidgeting like 10-year-olds at a rifle range listening to a lecture on gun safety. Sure, what he's talking about is important . . . but gawwdamn, we want to go *shoot* something!

He taunts us about it too, knows exactly what we're feeling. Every 20 minutes he grins and squints into our eyes, making a gesture with his forefinger as if measuring the fluid-level in a beaker. "Adrenaline's still pretty high," he says. "I see it there behind your eyes, washing back and forth."

He discusses cornering lines, and those of us who think we know ask pointed questions. The answers we get don't always satisfy us. Wait and see, he says.

He makes the beaker-measuring gesture again. "Adrenaline's dropping a little, I see. That's good. That's what we want."



One guy asks a question that is so elementary it makes me nervous for him. He wants to know what steers a bike. Jeeze Crice, I think, how'd he make it out to the track this morning!

Code nods. Nine out of 10 riders, he answers, would say that steering is a matter of turning the bars into the corner. Obvious, I think immediately. And of course I'm dead wrong.

Now maybe you already know about "countersteer." Articles about it have appeared (I've since learned) right here in CYCLE GUIDE. But I'm one of those foggy Liberal Arts types who, the minute things get technical, has to step outside for fresh air. Articles with charts and graphs make me dizzy. I prefer day-trips to the shore.

So when Code began talking about turning right by punching the right grip *forward*, turning left by punching your left grip *forward*, I sat twitching in disbelief. After 20 years of riding I knew damn well that to turn right, you pull the right grip *back*. So what if it seems sluggish? So what if I've never felt that, at an instant's notice, I could make a bike veer in the direction I wanted? It's in the nature of motorcycles.

I filed this foolishness away. I'd try it, perhaps, on the second or third lap of practice—just to prove it was wrong—before getting back to normal and going fast.

"Adrenaline level's falling," Code smirked again.

He began to discuss what to do—and more importantly, *not* do—while sliding across the pavement on your ass at 83 mph. Do *nothing*, he said, just slide and slide, try to relax completely till you've stopped, then lie still a moment to be *certain* you've stopped. It can be deceptive, he said. But the natural impulse to try to stop your slide with an arm or a leg will have only one result—months of bumpy walking and one-armed pool.

Code stopped now and looked around the group. "What happened?" he puzzled. "No adrenaline!"

He was right. In an hour and a half, he had given us so much to mull over that we'd almost forgotten about our plans for shattering the Riverside lap record. They began to come back again, of course, but they were tempered now. There were techniques to be tried, as well as shorts to be soiled.

But like I said, in all of his talk, Code had never told us it would be like *this*. The 110-degree desert sun clattered down, turning the helmets and racing leathers supplied to us by the Superbike School into portable sauna baths. The School's identically prepped KZ550s, with their stiff racing shocks and gummy racing tires and four-into-one exhausts, defied us to go faster and faster. There were no cops, no oncoming Buicks, no excuses—only throttle and bars and brakes and pavement and the ice-cubes behind our kneecaps. Heaven and Hell.

And Turn Two, where they both came together.

Of course, Riverside has other scary sections—Turn Six, Seven-A, Nine—and none of them gives up its secrets easily. But at least they don't hide from you. Lap after lap, you can see them coming, go into them deeper, hold the power on longer, bring it back on sooner. And you can see what other riders are doing and try to beat them.

But Turn Two was like disappearing into a Black Hole. Unless you're the guy in the pink beret who swan dives off the Golden Gate Bridge convinced that halfway down he'll learn to fly, you approach Two with profound respect. It's like the skunk you've got cornered down in the basement—you work up to it *reeeal slow*.

I'd been doing that. And even still, I'd missed the apex every time. No matter how hard I leaned, how firmly I forced the bars over, I couldn't seem to hold the bike to the inside of Two. And then automatically, as if with a will of its own, the bike would exit the turn far to the outside of the pavement, short-hairs away from disaster. By the time I got things gathered up and got the power on again, the Esses were a low-speed cruise. It was awful.

But at this speed, the Esses were so easy that I had time to try out Code's countersteer nonsense. Why not, I figured, despairing. As a racer, I was a failure anyway. Nothing to lose.

So I punched the left grip forward going into the first ess and instantly the bike darted left. It felt like it wanted to fall over.

In the next ess, I pushed the right grip forward—more gently this time—and the bike veered to the right like it was on tracks. I pushed left again, then right. It was miraculous. Slalom skiing. I squeezed the brakes hard going into Six, pushed the right grip ahead and the KZ sailed up over the crest of the hill in perfect control, going faster than it had ever gone through there before. And it told me I was crawling, creeping. "Gas me," it yelled into my helmet.

Down the chute to Seven, writing this lap off to experimentation, I punched the bars this way and that, and the bike responded like a Piper J-3 trying to do a series of ground-loops. It darted and dashed wherever I sent it. I couldn't *believe* it. And suddenly, as if 20 years of riding experience had vanished like a whiff of stink, the ice cubes behind my kneecaps began to melt. I dove into the long, fast Indy-style right-hander of Turn Nine with the right grip pressed forward and the KZ streaked ahead, howling. I pulled 600 rpm more through Nine than I'd ever pulled, totally in control, holding the apex late, then letting the bike gradually drift out to the wall. It was like flying—not wrestling, not struggling, but flying. Bending the horizon. I couldn't wait to get to Turn Two.

The front straight and One blasted by. I came down the chute to Two and braked early, being cautious. But instead of pulling with my right hand this time, I pushed. The bike sliced through the entrance, around behind the bluff, dove straight into the apex and stayed there. It felt so steady that I held the power on through the entire corner and blasted up into the Esses, throttle full-on, weaving and punching at the bars, punching and counterpunching, wanting to go faster still, in a hurry to get around the track so I could do this again . . . but next time, hold my braking later—maybe eventually not brake there at all, though that would wait a few laps—then throw a right jab at the bar cutting into the blind apex, fly out and up through the Esses laying the bike from side to side, working these gummy tires and crisp little 550cc to the limit, sparring with the pavement, bobbing and weaving, throwing punch after punch, jabs, crosses, combinations, beating the track to a pulp. At last, after 20 years, I had a KO punch.

—*Ted West*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# GUIDE LINES

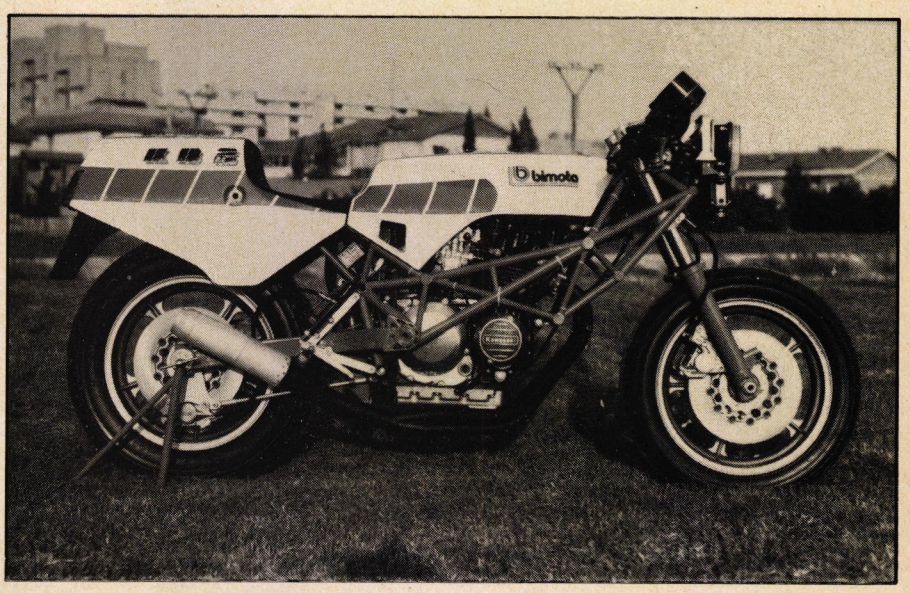
*Cycle Guide's Monthly Chronicle of Scoops, Tips, Rumors and Hard Facts*

BY LARRY WORKS

## COMING SOON

• With all of the attention going to the new 1981 models these days, it could be that by now you've had it up to *here* with stock machinery and are ready to consider something a bit less homogenized. Maybe even something like the **Bimota** KB2, a downscaled street rocket powered by a KZ550 engine. The heart of this mid-size Bimota is a chromoly frame/swingarm combination that goes into producing a motorcycle with a dry weight of **320 pounds**. The frame alone tips the scales at a mere 20 pounds. Bolted to that frame are a 38mm-diameter fork, de Carbon monoshock, 16-inch Campagnolo wheels and triple Brembo discs with twin-piston calipers all around. An integral brake system on the KB2 links one piston of each of the front disc calipers to the rear brake lever, while the two remaining front pistons are controlled by the front brake lever. Michelin tires and some clearly Italian glass complete the package, which arrives with a handsome calling card—a claimed **150 mph** top speed.

• Or if carving letter-perfect apexes on a thinly disguised roadracer isn't what you do, if what's needed is something a bit more . . . **primal**, there is always Maico's new 490 Mega 2. How it gets savage is by combining a dry weight of 224 pounds with a 488cc monstermotor that grinds out right around 53 horsepower at 7000 rpm. A 12.1:1 compression ratio, Bing 40mm carb and a Motoplat pointless ignition contribute to the Mega 2's brute strength, while a five speed gearbox aims it at the rear wheel. Taking all that **throbbing** power from the potential to the practical are a chromoly frame, 42mm-diameter air-spring fork, and twin Corte Cossos with dual-rate springing that add up to more than 12 inches of travel at each wheel.




**Baby Bimota KB2 combines birdcage frame with de Carbon shock, 16-inch wheels**

*Downsize only when you're measuring inches.*

**Maico's 1981 490 Mega 2 generates explosive horsepower at 7000 rpm**

*For this year, Open-class power will be measured in megatons.*

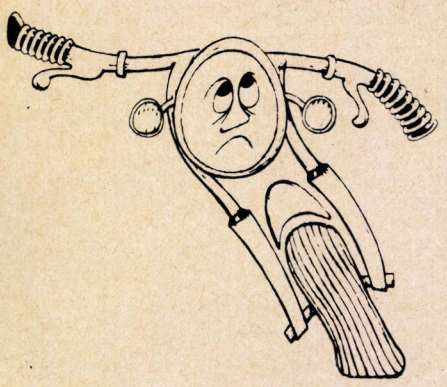
## FEDERAL CASES

• Rider education is shaping up to be one of the busiest intersections of motorcycling and government in the next few years. A new program beginning in **New York** provides a look at how to arrive at that intersection. The five-year, $2 million project will evaluate the effectiveness of **rider** education in cutting new-rider accidents. In a bit of a reversal on long-standing policies, NHTSA sponsors the project, along with the New York DMV. If the program, which will compare accident statistics on 17,000 new riders exposed to different kinds of training, shows that rider education produces an across-the-board reduction in the number of accidents, New York could make formal rider education mandatory for would-be licensees.

• Naturally, New York is not alone on the rider education bandwagon. **Washington** recently fired up a program of rider training to provide motorcycle **instruction** in seven areas of the state.

*Continued*

# BOYER ELECTRONIC IGNITION - PUTS THE LIFE BACK INTO YOUR BIKE!



Do you want to put some zip into your bike? There's one simple solution: The Boyer Mark 3 Electronic Ignition. It can transform your machine from lifeless to lively in minutes. Boyer Mark 3 is a contactless system, magnetically triggered (no lite beams) with electronic advance and no wearing parts—once set it cannot vary its precision. You get better spark, improved mileage, easy starting, smoother running and peak all-around performance. All from a unit that measures no bigger than 2" x 2½"! *It's easy to fit:* just plug into original wiring (no electronics in engine).

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## GUIDE LINES *Continued*

- But while rider education is thriving in many states, it strangled in **South Carolina.** HB2356, which would have provided for a **study** to determine the worth of rider education, died.
- Another area of long-standing controversy is helmet legislation. Persistent attempts at the **state** level to remove or modify existing helmet laws continue to crop up. For example, Michigan bill SB346 would eliminate the **helmet** law there. The bill has passed through the state senate, and is now in the Michigan House Committee on Insurance.
- But while state controversy over helmets continues to rage with no sign of letting up, it just could be that **NHTSA** harangues in favor of helmet laws are drawing to a close. Attempts to legislate **helmet** use could give way to public service announcements touting the advantages of wearing a helmet. In evidence of that shift in policy, NHTSA recently applied for a $200,000 grant from a subcommittee of the House Appropriations Committee to promote **voluntary** helmet use.
- The helmet question in England is taking on different dimensions, as the British Standards Institute has changed its testing procedures to make it harder for **polycarbonate** helmets to be certified. The testing change consists of coating the polycarbonate helmets with a solvent prior to **penetration** studies.
- Other reports from Great Britain show that **British** riders are in for a shakeup in motorcycle **licensing** structures, if a new body of regulations passes through Parliament. Under the new regulations, learner's permits would be issued for a fixed period of time, by which the permit holder would have to qualify for a full license. Another facet of the new regulations would drop the maximum displacement of motorcycle a permit holder could ride from 250cc to 125cc.
- In another bit of British news, the Department of Transport is considering whether or not to require **auxiliary** headlamps on all new street bikes there. The extra **lights** would be mounted on both sides of the headlamp, but their use would be left up to the rider.
- Apparently, there's a bit of rethinking going on at the federal level. An **EPA** regulation requiring that all vehicles sold in the U.S. have tamperproof ignitions was recently dropped. The **dumping** of this rule follows close on the heels of last August's removal of tamper restrictions on idle speed adjusters. As the law now reads, only choke settings and idle mixtures need to be tamperproof.
- And here's a tidbit from the Federal Highway Administration that should let you **figure** out how you stand in comparison to the Average American. According to a report released by the FHA, the average motorcycle in the U.S. traveled **4000** miles at an average of **50 mpg.** On the other hand, the FHA's average car rolled 9485 miles, getting something less than 14.3 mpg.

## HARD CASH

- The money trail points north this month,

*Continued*


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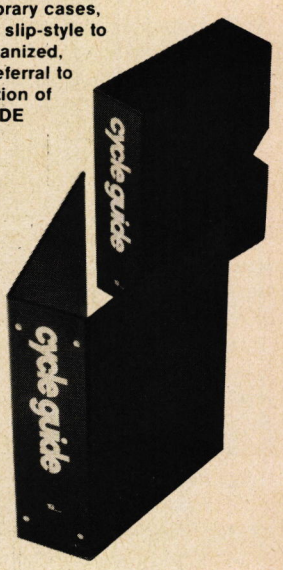


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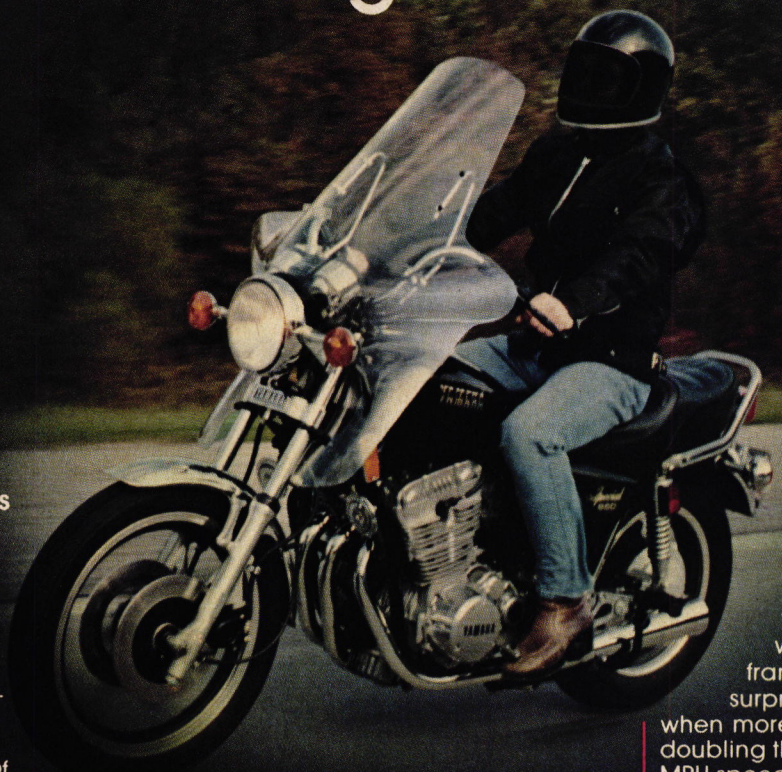
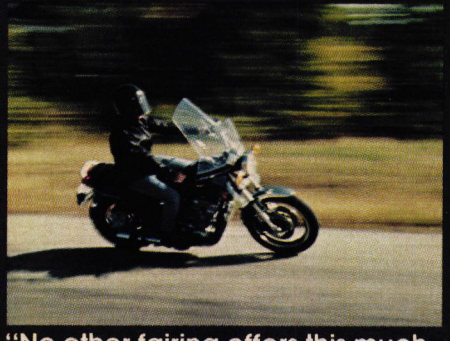
# SILHOUETTE
## The Fairing For the 80's



**"The fairing for riders who never liked fairings before."**

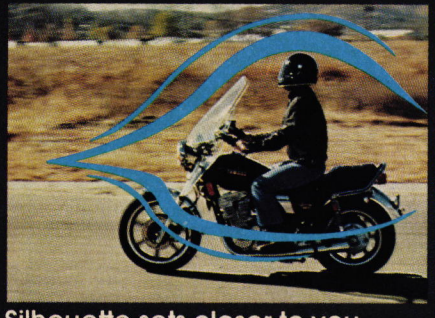
It used to be that most riders didn't like fairings because they added weight and a bulky, clumsy appearance to an otherwise trim and powerful looking motorcycle. Of course, these same riders have had to put up with a lot of discomfort due to wind chill and buffeting.



**"No other fairing offers this much riding comfort."**

Then in 1975, we introduced the Silhouette and it quickly became known as the "fairing for riders who never liked fairings before". The Silhouette is light, (less than 9 pounds) and anything but bulky looking. In fact, from some angles it becomes practically invisible, and from any angle, the lines of the bike show right through.

The Silhouette fairing has a unique, patented cushion-mount system that absorbs road and bike vibrations to assure a long, trouble free life. It is manufactured from premium quality, 3/16" thick, cast acrylic in either clear or light smoke gray tint. There is a Silhouette model available to fit every road bike made.



**Silhouette sets closer to you, adjusts to your height, and extends lower to stop up-drafts.**

We could say nice things about ourselves all day, but you might be more impressed to hear it from the experts... the professional rider-writers from the bike magazines:

RIDER, June 1979—"I have ridden behind this fairing before and found the protection excellent, on a par with much more expensive frame-mounted models. Was I surprised when more than doubling the 55 MPH speed limit that I found the fairing had only a minimal effect on handling."

**Silhouette looks great...when you can see it at all.**

CYCLE WORLD, April 1979—"...the amount of protection is greater than any ordinary handlebar-mount fairing...where the difference is noticed most is around the kidneys and down low."

CYCLE, 1980 Annual Street & Touring Guide—"The Silhouette is finished with first class care and hardware. We recommend it if you're looking for both maximum protection and quality finish."

Ask your favorite motorcycle dealer about Silhouette. It's the one fairing that does things the others can't do. If he doesn't have a Silhouette for your bike, just have him give us a call. We have your fairing in stock and we'll ship it immediately.

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# Around

**City Cruisers.** If you like the low rider look, the new GS-850GL and 1000GL Shafts are right up your boulevard. These stylish cruisers boast a lower profile for 1981. Really low-down and pretty.

Custom appointments include high-swooping handlebars, extended forks, plush step saddle, chopped pipes and a fat rear tire.

## 12-Month Unlimited Mileage Warranty*

*Offered only in the 48 contiguous United States and Alaska. Refer to U.S. Suzuki "GS Model Limited Warranty Policy" at Suzuki dealerships. A similar warranty is offered in Canada.

# town. Or town to town.

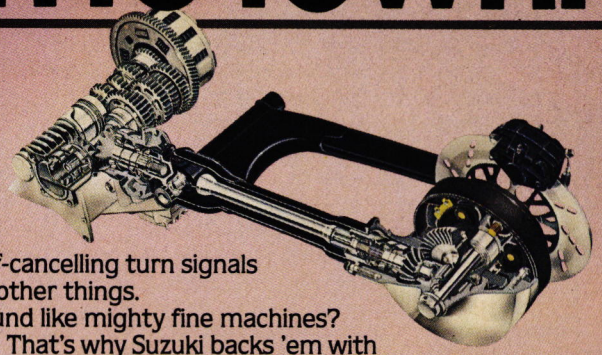
So you see, these bikes will take you around town in style. They'll also get you out of town fast.

Read on.

**Country Crossers.** Thanks to the smoothest, lash-free shaftdrive in the business, these machines are ideal for the open road.

Engine is a long-distance hauler, too. The 4-stroke DOHC inline Four is exceptionally quiet and smooth. And it's virtually maintenance-free. Thanks to thoughtful items like a fully transistorized ignition (no points to adjust) and an automatic cam chain tensioner.

Both bikes are also equipped with an easy-riding suspension (front air forks and rear shocks with 5 load settings, 4 damping adjustments). Triple slotted disc brakes. Electric fuel gauge. Halogen headlight.



And self-cancelling turn signals among other things.

Sound like mighty fine machines? You bet. That's why Suzuki backs 'em with one of the finest warranties around. Namely, a 12-month unlimited mileage warranty.*

Nice to know. Whether you're riding around town or around the country.

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Member Motorcycle Safety Foundation. Ride safely. Always wear a helmet, eye protection and appropriate riding apparel.

# McLaglen Motor Corps

## *For them charity begins at the controls of a Harley.*

• Picture 21 men in identical, freshly pressed uniforms, jackboots so shiny you can't look at them straight-on. A maze of arms, legs and hands interlocked in highly orchestrated movement. Toes and fingers pulling, feet on shoulders, feet on heads, feet on feet. Muscles taut and twisted against the force of gravity. Twenty-one hearts pounding, drowned out by the rolling thunder of a four-stroke vee-twin. A mountain of straining humanity—atop a single motorcycle.

To the spectator, the sight of 21 men riding a single Harley is enough to etch itself firmly into the memory. To the McLaglen Motor Corps it's just another performance, just one more day in the lives of these motorcycle daredevils.

But this is more than just a group of precision riders out to dazzle the eye and cause a few heart flutters. This World Championship stunt and drill team works for something more than riding perfection, something that comes to light only after the crowds have gone home—charity. While the team is out risking life and limb to entertain the crowd, they're doing it to aid crippled children's organizations as well. Over the past 45 years, all proceeds earned through public appearances of the Corps above immediate club expenses have been donated to handicapped children.

In 1935, actor Victor McLaglen first realized the fund-raising possibilities of the Motor Corps and became its first sponsor. The following year, the McLaglen Stunt and Drill Team blitzed the Mexico City Police Stunt Team in the World Championships, taking top honors before a packed house in the Los Angeles Coliseum. It's a distinction they have held to this day.

Though multi-man, single-bike tricks are the team's trademark, they represent only a small part of MMC's repertoire. A rundown of the team's stunt routines includes: the Backward Ride (at speed), Roman Ride (two motorcycles under a lone rider), Side Ride, P-38 Human Ladder, Double Side Ride, Six Man Stopping Pyramid, DC-10, Hy-Lo Chariot Pyramid (up to 22 riders on four motorcycles) and a host of other two-wheeled acrobatics. As one rider put it, "We can do anything with a motorcycle but wash dishes."

After you've seen the Corps perform, it's hard to believe that they're not all runaways from the circus; but it's true, there's not a single trained acrobat among them. They're just good-hearted riders who get a kick out of putting on a show and putting smiles on the faces of some handicapped kids. And they work for those smiles. Each member puts in a minimum of six hours of practice each week in addition to scheduled performances, and must purchase and maintain his own machine.

Commander Harry Fisher is the leader of the pack and the guiding force behind the Motor Corps as it exists today. Fisher first saw the Corps perform when he rode the Death Valley Tour in 1962. He was hooked. With the exception of a few years off in the late Sixties to race Class C, sidecars and a few TTs as both an amateur and a professional, Fisher has ridden with the Corps ever since. Most of the members started out more or less the same way. They saw the Corps perform, asked a few questions and before they knew it they were members.

That's no idle spectator-to-stuntman story, either; MMC is always looking for new members. A phone call to Fisher at (213) 920-2768 is all it might take. Of course, it would help if you've got spit-shined jackboots, a polished Harley—and the nerve to ride bull-goose looney through a wall of flames. *—George Wegner*


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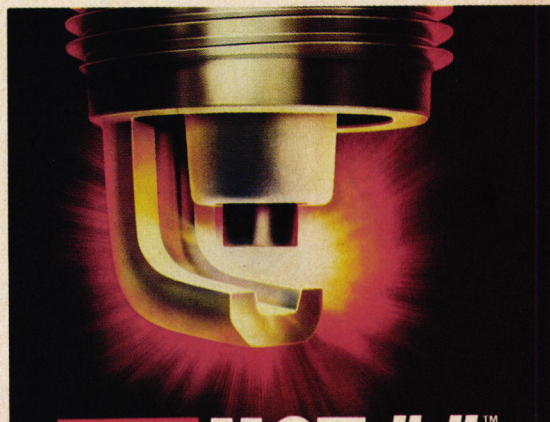

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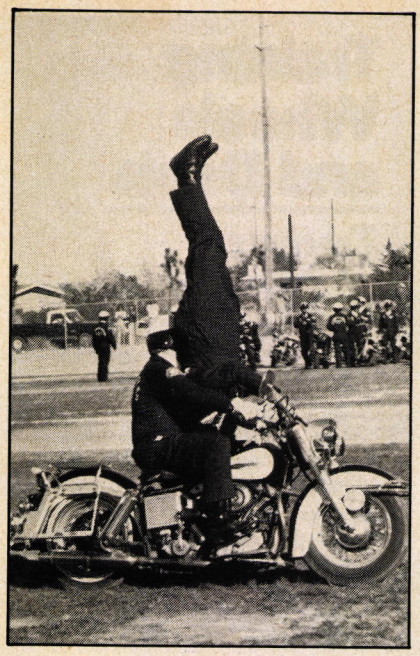

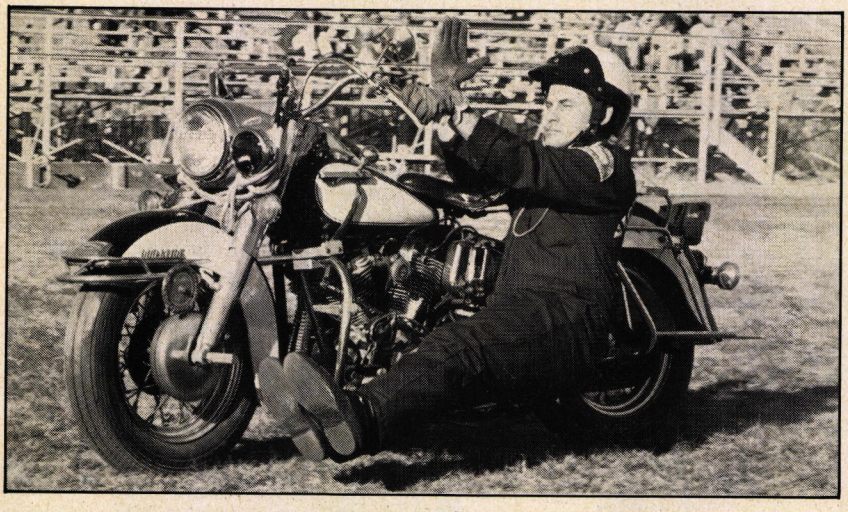

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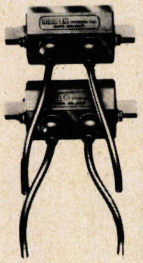

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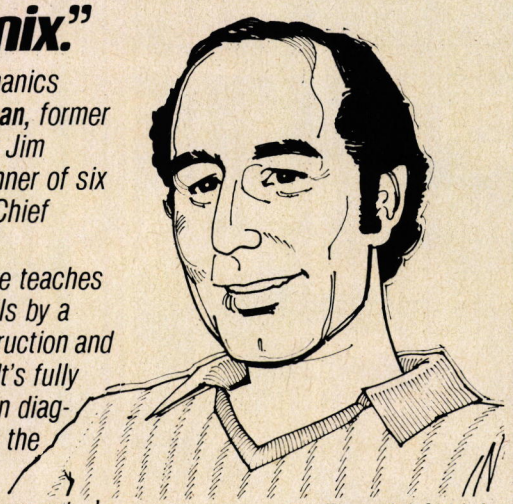

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# Training Wheels and Deals

## *Tracking the One True Course.*

• A rumor's been circling overhead that motorcyclists and bureaucrats don't mix. So, when California Governor Jerry Brown rejected a bill for motorcycle education, it wasn't surprising that motorcyclists responded with outrage. They were indignant. Just when they thought they had one boot in the door, bureaucracy (once again) snatched the welcome mat out from under the other one.

If that bill had been the only opportunity for motorcycle education, all that collective vehemence might have made sense. But there are, fortunately, good alternatives. Who says that motorcycle education must be handled by the government, for instance? Why couldn't private industry or even individual motorcyclists construct a workable motorcycle training program? And, even more tantalizing, why couldn't the government work together with private corporations or individuals to create what could be the best training course yet?

In California, that's just what happened. California's tradition of involvement with motorcycles demands that the rest of the country sit up and take notes. What happens there is bound to influence what will happen in other states. The California Project involves the State as initiator, along with the Motorcycle Safety Foundation's (MSF) well-known bursting larder of motorcycle information. But, best of all, individual motorcyclists set up and run the courses. Any community that needs a course can have one. The MSF will not only train the instructors, it will modify standard courses to suit the needs of a community.

Adult education programs offer the classes in most areas. But interested novices can also find the courses at some military bases or city police departments. Actually, the novice motorcyclist in search of training has to be certifiably out-to-lunch *not* to find this course somewhere.

Government and private corporations cooperate not only in assisting with the project but also in promoting it. The state has published a toll-free phone number, and organizations like the American Automobile Association are helping to advertise it. Motorcycle dealers are also trying to recruit trainees from their first-time buyers. And some insurance companies, not traditionally noted for befriending the biker, are

offering a discount of 10 percent to course graduates. What could be better public relations for motorcycle education than the diverse motorcycle community working together toward a mutual goal?

Governor Brown probably did California bikers a favor when he vetoed Senate Bill 468. Yes, it's true: The bill might have provided more courses via the vast public school system. Yet that same school system also wields the ruthless sword of Proposition 13. And it doesn't take Merlin to predict which courses will be the first ones sliced from your neighborhood high school curriculum. What is significant about the California Project is that an organization that understands motorcycles, and that people who ride them, actually run the courses. After all, people who know motorcycles are more likely to be able to caution a novice on how to ride safely through oil or how to avoid a reckless driver than a professional educator who has never thrown a leg over a bike.

California motorcyclists could consider themselves lucky. They could have been saddled with a dead-end training program. That doesn't mean, however, that other states or even other areas couldn't put together legislation that would work. It only means that this particular bill might not have been the right bill. It's just possible that California motorcyclists got the long end of the stick. —*Merry MacTavish*

*Continued*

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GUIDE MAR

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**GUIDE LINES** *Continued*

where a program of **expansion** and quality-control changes at Bombardier Limitée's Quebec plant should insure a more visible presence by **Can-Am** on American tracks in the next few years. The **$14.4 million** program will affect Bombardier's motorcycle, moped and snowmobile divisions. But don't start thinking that a major Can-Am invasion of the U.S. is underway. Some of that increased production will find its way to Belgium, as the result of a $4 million contract to supply the Belgian Armed Forces with military motorcycles.

• Then the trail leads to **Illinois,** where riders of vintage, classic and just plain older motorcycles have just saved $30 apiece. The **Use Tax** that Illinois levies on vehicles when they are registered has recently been dropped for vehicles more than five years old.

• But aside from isolated pockets of moto-money talk, the big news at this time of year concerns **racing.** For example, Harley-Davidson has just announced a pot of **$70,000** plus contingencies for the nine-event 1981 Harley-Davidson Dirt Track Series. The booty breaks down to $50,000 in individual race purses, plus a $20,000 **H-D** point fund that goes to the top 10 finishers. All Class C experts are eligible for the point fund.

• Not to be left out of the game, **Accel** Motorcycle Ignitions has posted a contingency pot of $16,500 for the 1981 **Winston** Pro Series.

• Then, Manley Performance Products sweetened the **NMRA** pot, to the tune of $6500 for the 1981 season. To qualify for the awards program, straight-liners must use **Manley** valves and display a Manley decal.

• If you thought by now that the well had run dry, think again. **Metzeler** came up with a $2410 contingency ante for the Florida Winter-AMA MX Series. **Prizes** will be paid out to the highest-finishing Metzeler-mounted riders, regardless of their overall finishing position in the series.

## RUMORS

• With the jury still out on Suzuki's new models, the industry gossips are naturally turning out a full dose of **Suzuki** rumors. One of the most persuasive—certainly one of the most popular—bits of flotsam concerns the GSX400 that you read about in this column last month. The story was that the **16-valve** 400 Four that Suzuki pulled from the Paris Show at the last minute would appear in the U.S. as a **550** this year. That notion was strengthened when Suzuki finally unveiled the bike at the Osaka Show. The fact that the new 400 Four was shown alongside Suzuki's 400cc twin (similar to the 450 sold in the U.S.) did nothing but **fire up** talk that a 550 will be arriving shortly.

• And while Suzuki talk is circulating, sources have fine-tuned the rumor of a new **DR500** with the information that it will have a TSCC four-valve head.

• Still on Suzuki, the inside word is that changes to the **RM**-series caused the **delay**

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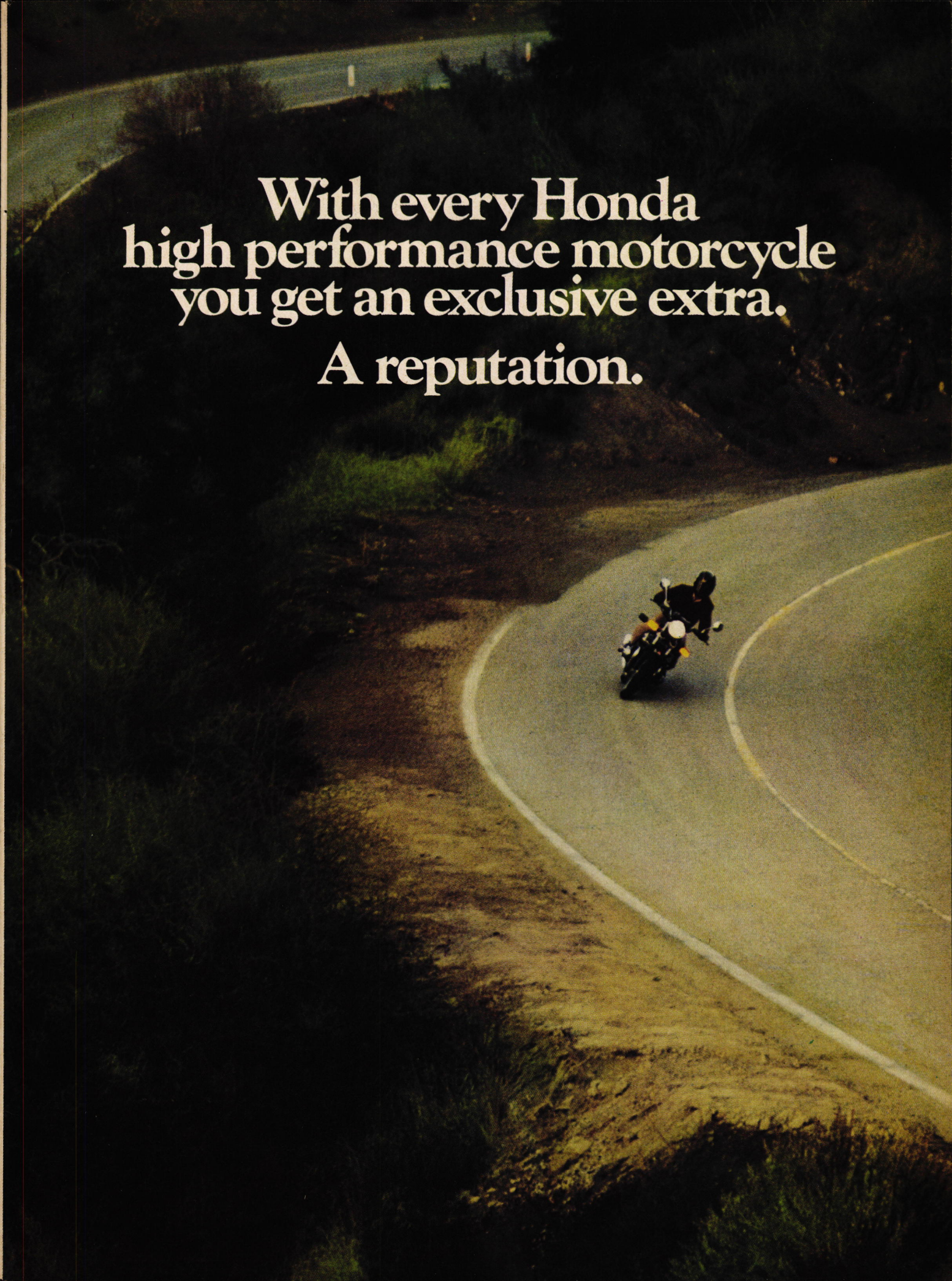
With every Honda
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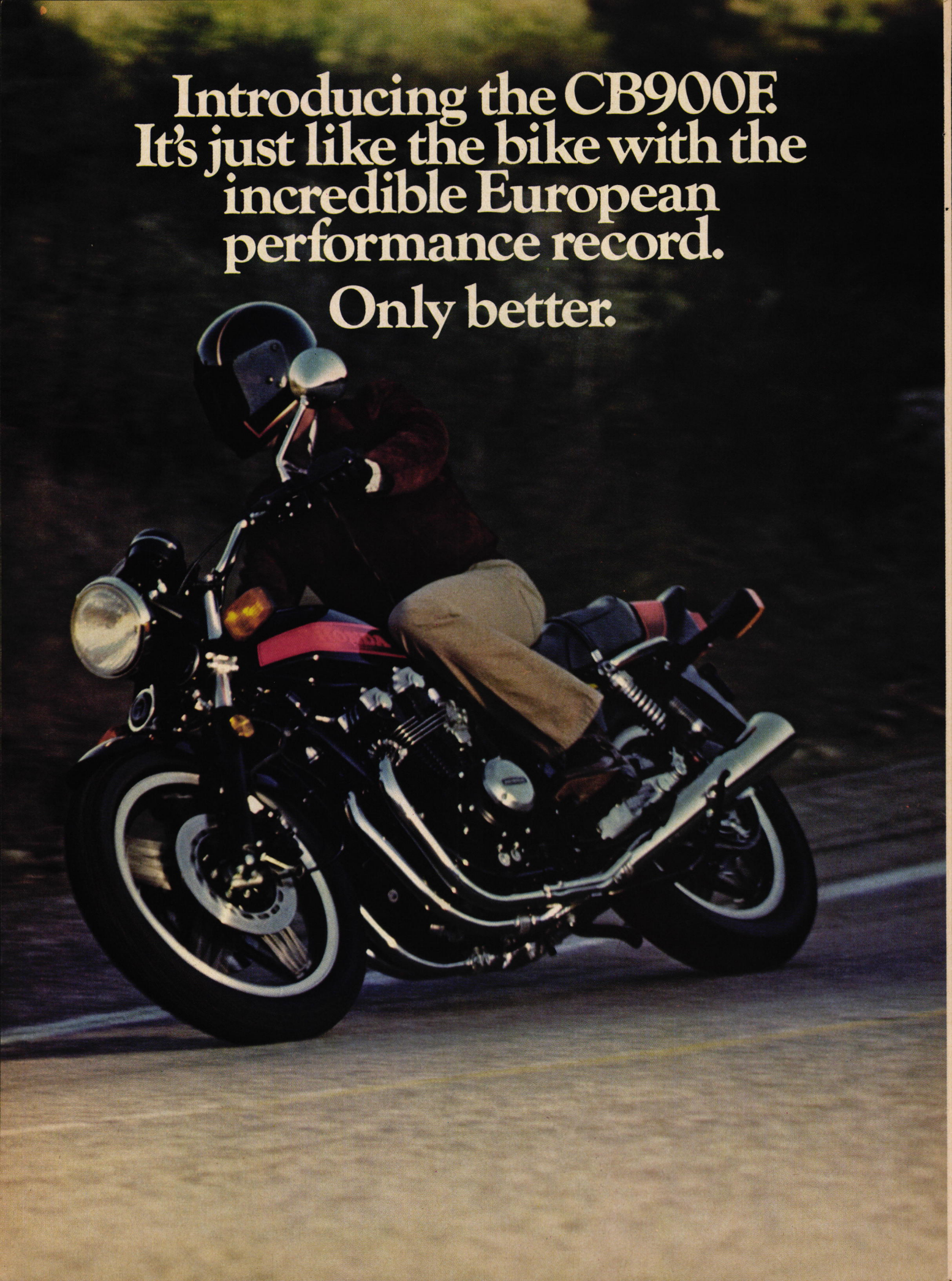
you get an exclusive extra.
A reputation.


Introducing the CB900F.
It's just like the bike with the incredible European performance record.
Only better.

Very few high performance motorcycles can stand the test of time.

They roll off the showroom floor only to be eclipsed and roll on into oblivion.

But occasionally a motorcycle like this one comes along. A machine known as one of the premier road bikes of Europe, where a little Sunday ride can mean 450 tank hugging kilometers through the Alps. Or a little jaunt down the Autobahn. In the fast lane.

You may have wondered as you heard stories about this machine just why you couldn't get one here in America.

Wonder no longer. You can get a bike like that here in America.

Only better.

The 1981 CB900F.

## Honda is out to build a reputation, not rest on one.

Europe is Europe. Here is here.

In America five consecutive European endurance road racing championships are good magazine copy, but that's about all.

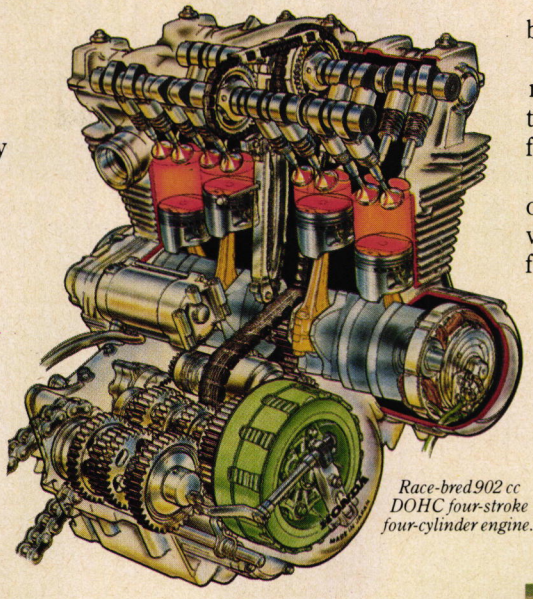
So what makes Honda so sure the CB900F is the high performance bike America has been longing for?

Just a few little things like a big 902 cc, DOHC four-cylinder engine. With Pentroof™ heads and four valves per cylinder for very efficient combustion. An engine descended from Honda's super successful RCB endurance road racers.

A lightweight, high efficiency oil cooler helps keep this high performance engine operating at comfortable, consistent temperatures. And the engine is rubber mounted to help cushion vibration.

Four 32 mm carburetors with an accelerator pump provide smooth, even throttle response. And a transistorized ignition eliminates points and maintenance.

The end result is power. Smooth, reliable, usable power.



*Race-bred 902 cc DOHC four-stroke four-cylinder engine.*

## Handling spoken here.

Handling is the same in any language. The CB900F's handling starts with 39 mm air-adjustable front forks with dual low-friction Syntallic™ bushings and an air pressure equalizer.

The double cradle tubular frame has tapered roller steering head bearings for long life and easy, precise steering response.

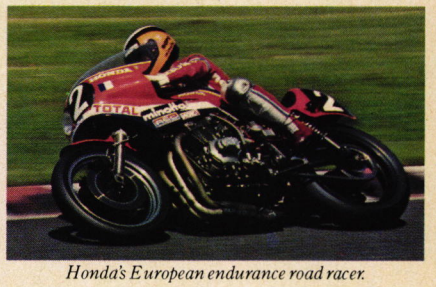
The swing arm pivots on needle bearings, also for long life.

And the rear shocks with remote reservoir are adjustable a full thirty ways. Six for damping and five for spring preload.

V-rated tubeless tires mounted on highlighted aluminum ComStar™ wheels provide the grip and wide footprint so important to the high performance rider. And to bring everything to a non-screeching halt, twin piston brake caliper disc brakes are fitted, front and rear.

Even the front fender is performance oriented, with a small spoiler designed to direct air into the engine oil cooler.

So how does Honda spell handling? CB900F.



*Honda's European endurance road racer.*

## The final advantage.

Obviously, the CB900F is a world beater.

A motorcycle designed to be at home on the roads of Bern or Strasbourg or Lyon. Or for that matter, Maine or Kansas or California.

But the 1981 CB900F has one great advantage over all those that have gone before. One improvement over and above all the major and minor technological advances Honda has introduced on this machine.

The 1981 CB900F is available here in America.

# HONDA

FOLLOW THE LEADER

# When a motorcycle dominates a performance class once, that's luck.

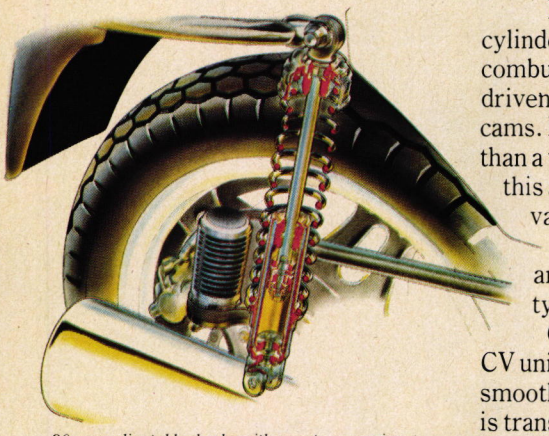
# When that machine does it three years in a row, that's a reputation.

Reputations are made, not born.

They're made on race tracks, not test tracks. On back roads, not in back rooms. They're made, not by companies, but by consumers, enthusiasts.

Reputations are built by riders, not writers.

The 750 cc high performance class is one of motorcycle's most competitive. And for the past three years it has been totally dominated by one motorcycle.



*30-way adjustable shocks with remote reservoirs.*

One motorcycle that has become known as the finest machine in its class.

That motorcycle is the Honda CB750F.

The class of a very tough class.

## Power to spare.

Dominance of this very high performance class begins with one simple word. Power. Power from the four-cylinder 16 valve marvel which has become the standard of excellence in this most demanding of classes.

This, after all, is the engine from which Team Honda's Superbike road racer was derived. It is a proven performer.

Each of the four Pentroof™ head cylinders utilizes four valves for combustion efficiency. The valves are driven directly by the double overhead cams. Because each valve is lighter than a valve and rocker arm system, this allows higher rpm's without valve float.

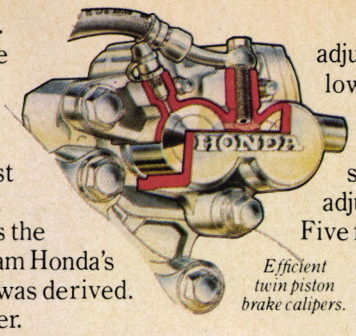
The double overhead cams are driven by dual automotive-type multiplate chains.

Carburetion is by four 30 mm CV units with an accelerator pump for smooth, no lag response. And ignition is transistorized for high performance, low maintenance.

## Handling made easy.

In order to keep up with the performance of the incredible CB750F engine, Honda couldn't lag behind in the handling department.

And obviously, Honda didn't.



*Efficient twin piston brake calipers.*

Start with new 37 mm air-adjustable front forks with dual low-friction Syntallic™ bushings and an air pressure equalizer. Add new VHD™ shocks in the rear which are adjustable a full thirty ways. Five for spring preload, six for damping. And the swing arm pivots on long wearing needle bearings.

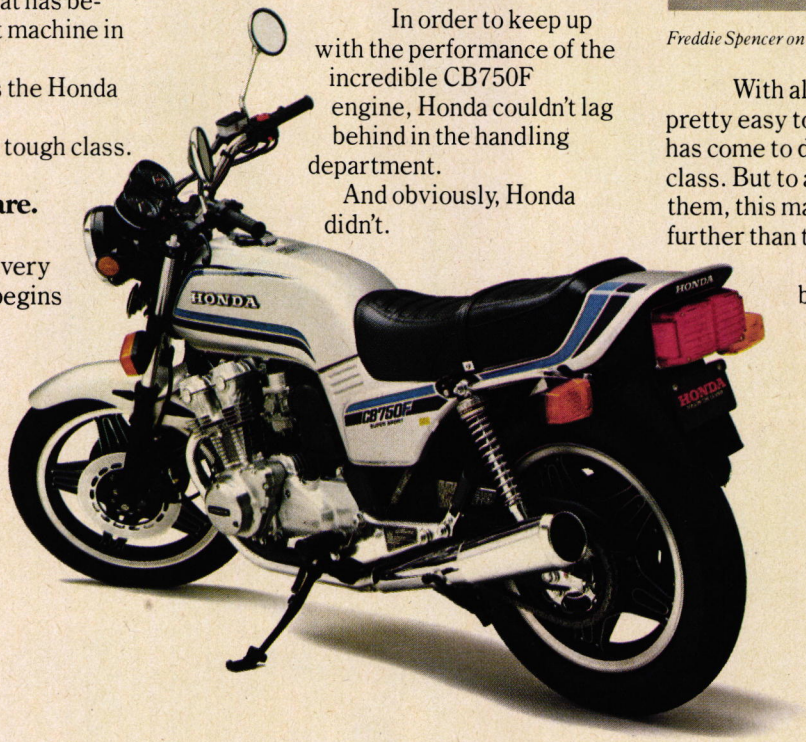
The highlighted aluminum alloy ComStar™ wheels are fitted with larger-than-ever tubeless tires. And stopped by three disc brakes featuring Honda's new twin piston calipers.

Even the headlight has been beefed up—a new seven inch 55/60 watt halogen unit.

*Freddie Spencer on the Honda CB750F-based Superbike.*

With all that going for it, it's pretty easy to see how the CB750F has come to dominate its production class. But to a lot of people who ride them, this machine has come even further than that.

To them, it's in a class by itself.




# HONDA

FOLLOW THE LEADER

The racing stripes
are not just for decoration.
162

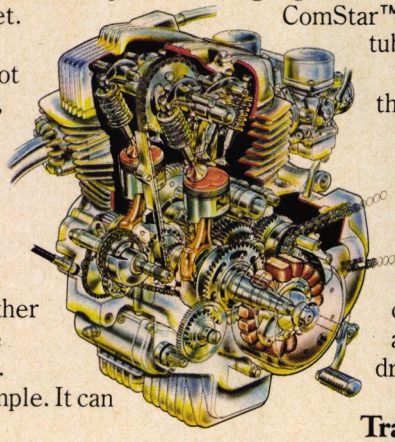
You can't judge a motorcycle by the way it looks.

Practically every bike on the road these days sports a competition inspired paint job. But that's as close to a race track as most of these sheep in wolves clothing ever get.

Not the Honda Hawk.™ The Hawk is not just painted like a racer, it is one. And very successful, too, in box stock and modified production competition.

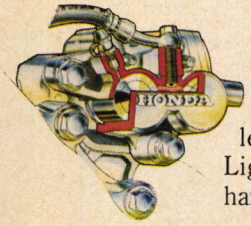
In fact, when you first see the new Hawk, you might wonder whether it should wear a license plate or a number plate.

The answer is simple. It can wear both.



*Honda's wide powerband 395 cc four-stroke twin engine.*

## To a high performance motorcycle, pavement is pavement.



*Efficient twin piston brake calipers.*

Street or track, a high performance motorcycle must have at least three qualities. Light weight, nimble handling and power.

The Hawk weighs a mere 375 pounds. So much for that.

Now let's talk handling.

How do air-adjustable front forks with friction shaving dual Syntallic™ bushings sound to you? And rear VHD™ shocks with five spring preload adjustments. And wide rim, highlighted aluminum alloy ComStar™ wheels with tubeless tires.

The Hawk has them all.

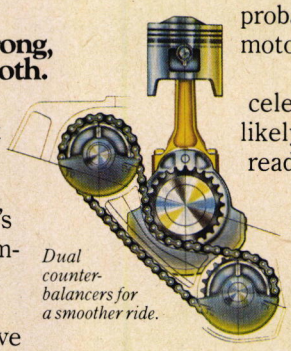
Plus, for high performance braking, a twin piston caliper front disc along with a rear drum.

## Track strong, street smooth.

Big power doesn't have to come in a big package.

Take these 395 cc's for example. A light, compact vertical twin. Pentroof™ heads and unique three valve design for peak combustion efficiency.

Dual counter-rotating balancers reduce the vibration level. And Tri-Pulser™ capacitor discharge ignition virtually eliminates maintenance.



*Dual counter-balancers for a smoother ride.*

The engine breathes through two 30 mm constant velocity carburetors with an accelerator pump for smooth throttle response. And Honda Power Chamber™ exhaust gives the Hawk additional mid-range punch which gets to the ground through a six-speed close ratio gearbox and a #530 drive chain.

And proves conclusively that in high performance it's not how big the bike is that counts, it's what you can do with it.

## No matter who wins, you win.

The first motorcycle race was probably held the day the second motorcycle was built.

And while the winner was celebrating, the loser was most likely back in the garage getting ready for the re-match.

The point is this. Racing improves the breed.

Which is one of the reasons Honda races.

But if winning on the race track doesn't contribute meaningful improvements to production street bikes, it doesn't mean a darn thing. So the ultimate test of how well Honda's racing program works is how well Honda's motorcycles work.

As you can see, it's been a very good season.

# HONDA

**FOLLOW THE LEADER**

ALWAYS WEAR A HELMET AND EYE PROTECTION. Specifications and availability subject to change without notice. Photographed under controlled conditions using professional riders. Hawk action photo shows machine modified for racing with non-standard components. ©1981 American Honda Motor Co., Inc. For a free brochure, see your Honda dealer. Or Write: American Honda Motor Co., Inc. Dept. 554, Box 9000, Van Nuys, California 91049.

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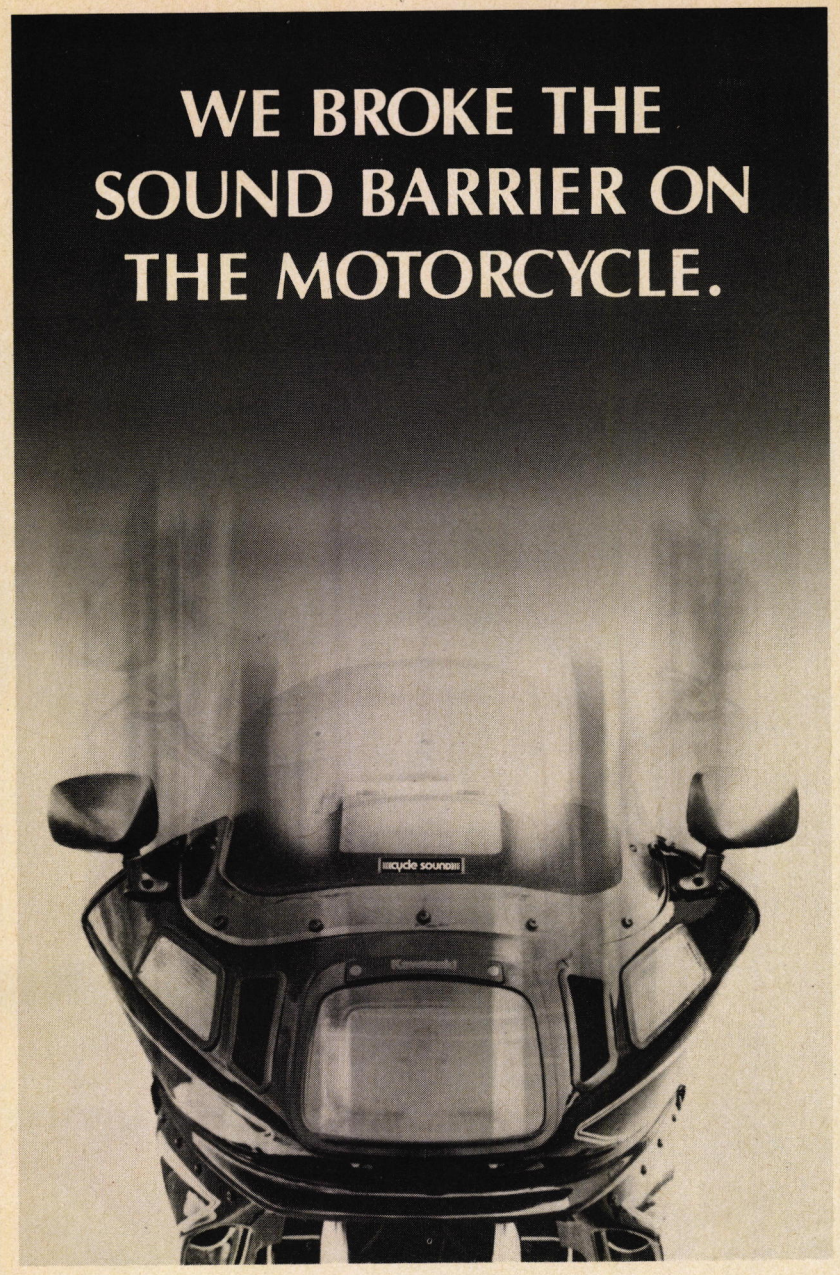


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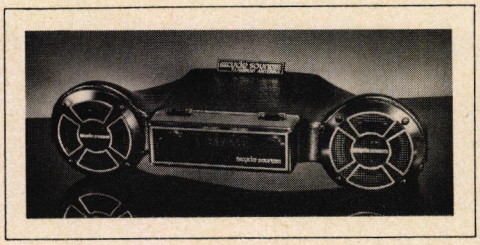

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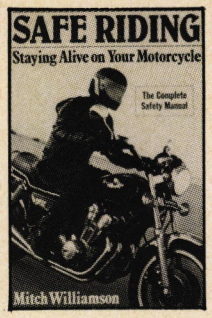
# Book Review




**SAFE RIDING**
**Staying Alive On Your Motorcycle**
**By Mitch Williamson**
**224 pages, $7.95**
**Everest House**
**1133 Avenue of the Americas**
**New York, New York 10036**

• Books on motorcycle safety are important. In the worst possible case, a reader's safety hangs on the quality of information contained in the book. So the task in writing a safety manual should be to impart the finest and clearest information available. Mitch Williamson has failed in this task. His effort is a combination of vagaries, inaccuracies and redundancies, all punctuated by numerous horror stories of riders killed by disobeying his truths. A total of nearly 100 of these gruesome tales appears in his book. Clearly, Williamson assumes that motorcyclists are incapable of responding to reasoned and persuasive information on safe riding habits. They must, apparently, be cajoled with the threat of maiming.

Or perhaps Williamson resorts to this scare tactic because of the lack of reasoned and persuasive information in his book. He apparently does not understand, or chooses not to explain, such basic riding skills as quick braking and countersteer. Pretty basic stuff to leave out of a book for beginning riders. A page is devoted to following *distances*, yet no solid guidelines are given for establishing safe following intervals. There is no explanation of helmet grading or selection. And so it goes for 224 virtually barren pages. Only the second chapter on basic riding skills contains quality information; it is remarkably similar to the MSF Motorcycle Rider Course.

A deeper look into Williamson's involvement with motorcycling might serve to explain his outlook. He rides a 200cc bike, refuses to ride in the rain and tries never to ride after dark. He seems to live and ride in constant fear of some inevitable and dreadful accident. And so, of course, his book is geared to produce more riders just like him. Meanwhile, safety instructors and apt beginners will continue to ride in the very different, real world of motorcycles.

*—Riley Tharp*

*Continued*

# HOW TO CHANGE A YAMAHA WITHOUT CHANGING THE YAMAHA.

The beauty of any Yamaha is not just the way it looks, but the many ways it's capable of looking.

And with the right accessories, Yamaha accessories, you can not only change the appearance of your bike, but the way you use it. All without losing that special look that makes a Yamaha a Yamaha.

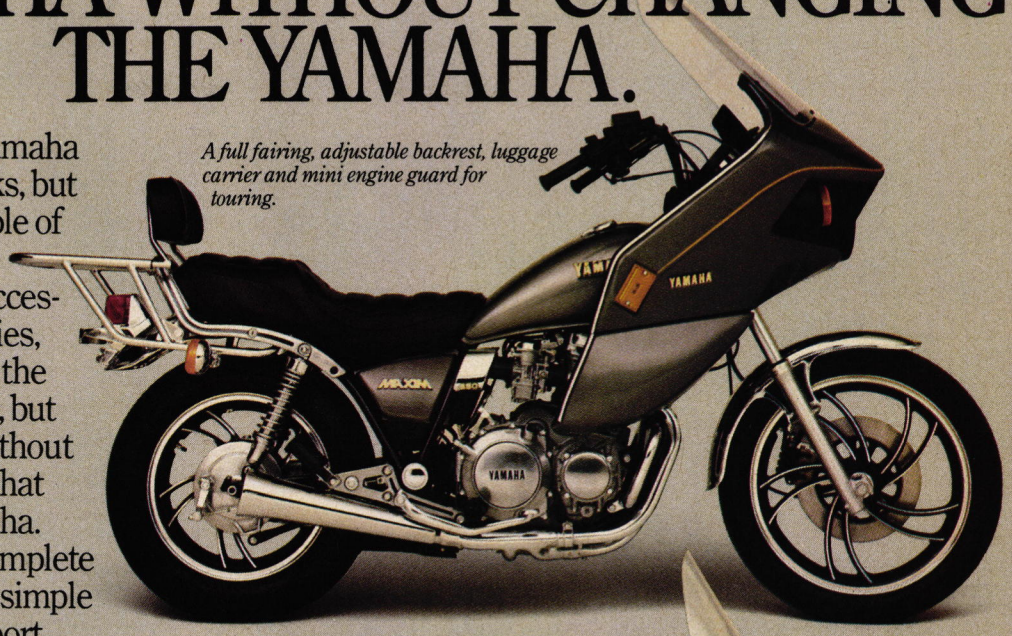
Everything in our complete line of accessories, from simple mini-windshields and sport fairings to water resistant saddle bags and custom cruiser seats, is designed to do more than just fit. They're designed to complement the styling of your bike, adding accents of chrome and coordinated color to give you a single, unified look. And a double-take at every stoplight.

And just as every Yamaha is carefully designed around its rider, some of our most popular accessories are, too. We've got the helmets, jackets, gloves and such to make you look as well put together as your bike.

So if you're up for changing your Yamaha, make sure you use genuine Yamaha accessories.

And make it a change for the better.

**YAMAHA**
THE WAY IT SHOULD BE.™




*A full fairing, adjustable backrest, luggage carrier and mini engine guard for touring.*

*A mini-cruiser windshield and high custom cruiser seat for street cruising.*

*A sport fairing and luggage rack for sport touring.*

*Rear view mirror(s) standard equipment.*

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Into a world of motorcycles that have lost their way. Amid soaring weight and multiplying valves, Kawasaki introduces a concept in engineering far more advanced than them all: Simplicity.

Witness the KZ750LTD. Built like its acclaimed brother, the 750 Standard. The bike that Cycle Guide said, "*. . . assaults high speeds with intelligence and finesse rather than bulk and brute strength.*" Intelligence starts with the engine. Its two valve per cylinder design and narrow configuration contribute to an overall weight that's 50 pounds lighter than its closest competitor. It delivers more net horsepower per pound. And something else: reliability. Simpler *is* better.

# I BY TAKING AWAY.

But simpler isn't always easier to achieve. Take the chassis, a product of advanced stress analysis techniques and computer welding systems that a few years ago didn't exist. The result is a design that's light in weight, yet uncompromised in strength.

Everything about the 750LTD is unsurpassed.

Its features, which include electronic ignition. Its handling, supported by a fully tunable suspension system. And its performance.

All in all, the 750LTD is unequaled, and not soon to be challenged.

If that sounds a little righteous–so be it.

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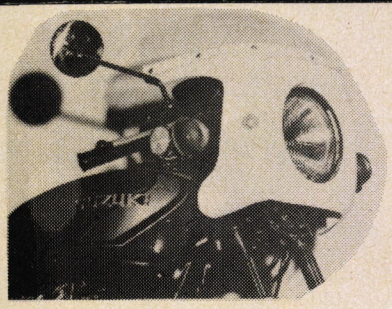

## Torque ¼ Fairing

Universal Top Fairing fits most motorcycles. Comes in white or black and choice of clear or smoke or blue shield. Fairing made of ABS plastic which can be painted to match any motorcycle or is attractive the way it is.

Universal mounting brackets are included. This fairing is to be used with low cafe bars.

**$61.95**

## Torque TQ Fairing

The Torque "TQ" Fairing is molded from ABS plastic and is available in black, white and silver. It comes with an attractive smoke windshield and universal mounts making it easy to install on most any model motorcycle. The "TQ" fairing provides shielding from the wind while adding an attractive appearance to the overall looks of the motorcycle.

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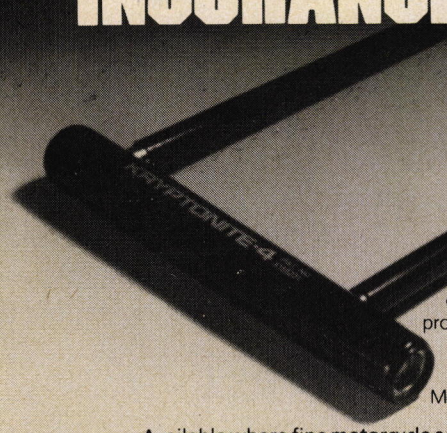
# THE KRYPTONITE "INSURANCE POLICY"*

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*The words "insurance policy" are meant to imply theft prevention only. No actual insurance accompanies this product.

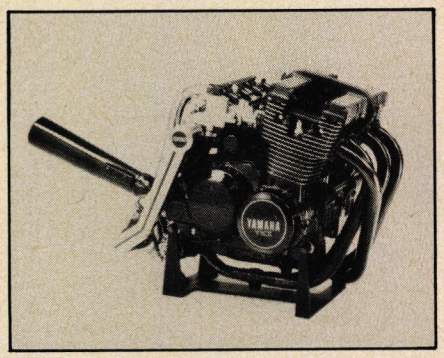
**Complete product evaluations are available upon request.




in Suzuki's 1981 introduction. One source added to the fund of RM rumors with a tidbit about the 250 and 465 RMs having aluminum gas tanks while the 125 runs plastic.

• Current industry chatter isn't confined to Suzuki, though. There's repeated mention that frame testing going on in Japan on the **TZ500** will result in some serious trickledown for Yamaha's 1983 **street** bikes.

• But while TZ-inspired frames are certainly topics for speculation, the hottest rumor coming from Yamaha is the **turbo** Eleven you read about last month. European sources insist that a turbo **Eleven** with a reed valve is slated for sale soon. Other sources are wagging their tongues over waves of Yamaha turbos that are purportedly being rushed from drawing table to test tracks right now.



**Rumored '82 fuel-injected turbo Eleven**

*Resuscitating an old horsepower king.*

• Other conduits see a connection between the turbo Eleven and a pure-**sport** XS1100 that Yamaha displayed at the Bologna Show, replete with low bars, **rearsets** and a full dolphin fairing.

• Another tale from the Tuning Fork Factory concerns not **fast** and fancy motors but equally fascinating **trade** agreements. Talk of a deal between Yamaha and a Mexican concern has insiders speculating over the destination of new machines that could be ready for **export** within a few years.

• Just so you Hondaphiles won't feel left out of the warp and woof of the rumor mill, insiders are saying that Honda doth protest a bit too much in denying plans to produce Harley-esque **CX750** flattrackers.

• Well, maybe, but you have to take some of that free association with a grain of salt. For instance, some otherwise balanced sources are gibbering on about a new water-cooled 250cc street bike that **Maico** reportedly has under wraps.

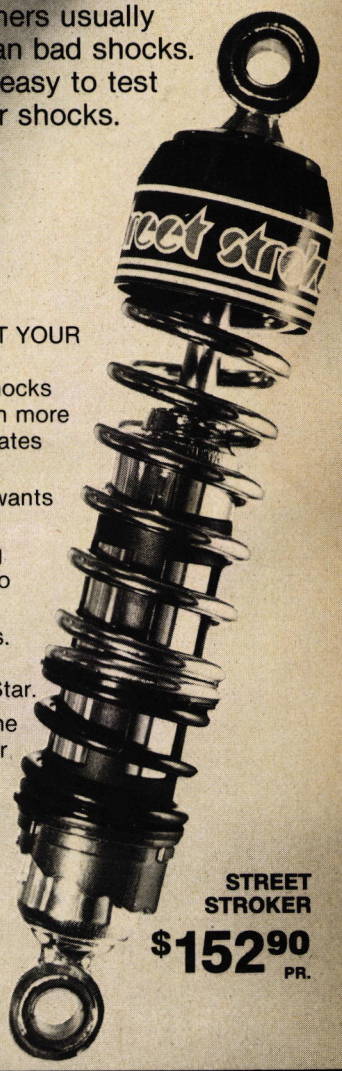
• If, after being buffeted with row after row of high-level gossip you still have the energy to get excited over old news reborn, read on. Sources in Britain claim that the **NVT** Rotary is about to make the leap from shadowy prototype to production **cold steel.** The conversion is expected to take place at a former BSA factory in Birmingham.

• On the subject of resurrected rumors, there's even talk that the Laverda **vee-six** racer that appeared at the Milan Show three years ago will be hauled out of mothballs and

*Continued*

# HAVE YOU FELT THE PANIC OF MUSHY CORNERING?

You go into a corner, lay the bike over and what do you feel?
The miserable mushies.
You can avoid the miserable mushies. One way would be to check your shocks. Mushy corners usually mean bad shocks. It's easy to test your shocks.



HERE ARE FOUR WAYS TO TEST YOUR SHOCKS:

1. Check your odometer. OEM shocks (factory) on production bikes with more than 5000 miles are likely candidates for the trash pile.
2. Mushy corners. Rear wheel wants to do its own thing.
3. Extra bounces after going over a bump. More bounce to the ounce.
4. Suspension sags and droops. When riding a passenger your headlight points to the North Star.

Cure the miserable mushies and the fear of careening corners with a pair of S&W's on your mean machine. S&W's are road reliable, proven and the leading replacement shock. Just ask the professional. Think you need S&W's on bike? There's one way to find out.

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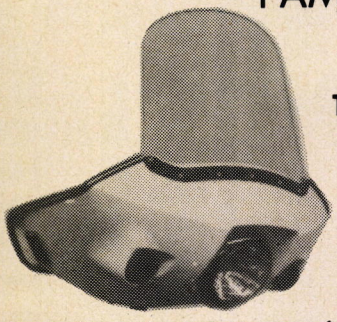

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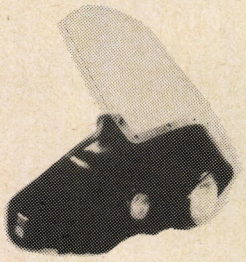

Custom Fit Frame Mount Fairing manufactured from polyethylene available in black or white. Tonneau covers with locks to protect each storage compartment. Dash for radio or gauges. Price includes mounts.

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**WOW LOOK AT THE PRICE**

This sleek winged fairing is molded from ABS plastic and available in black or white. Comes with smoke shield and universal mounts to fit all popular motorcycles.

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Cafe Fairing with style. Comes in white or black with smoke or clear shield. Made from ABS plastic and universal mounts to fit all popular motorcycles.

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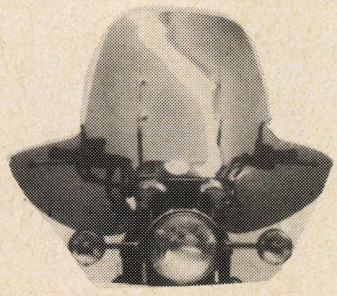

Fairing Style Windshield with universal mounts to fit most major model motorcycles. Available in clear or smoke. Provides protection from the cold winter winds.

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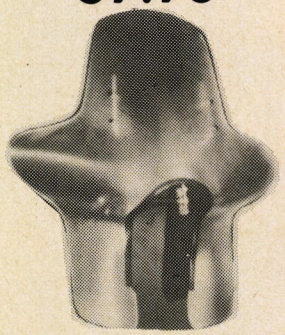
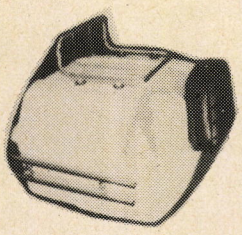


Deluxe Fairing Style Windshield with added leg protection from the wind. Universal mounts to fit most model motorcycles. Available in clear or smoke.

**$69.95**



Attractively styled travel trunk in black or white. Manufactured from ABS plastic. Comes with top rack, back pad, and side rails in chrome. Trunk has hinge and locking keyed lock for protection.

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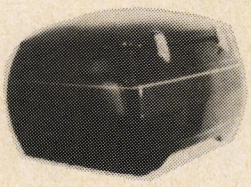

Large Capacity Travel Trunk manufactured from fiberglass and available in black or dark silver. Keyed lock closes lid. Close Out Special. Quantities limited on this special design.

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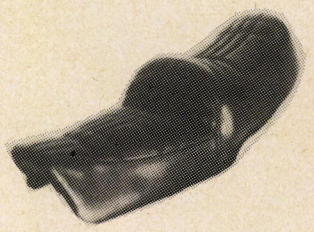

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put to work as an endurance racer. In this particular tale, the water-cooled 24-valve shaftie will also be tested in a new frame for possible . . . **commercial** purposes.

• Further rumblings from across the Atlantic suggest that the question at **Ducati** these days is turbo or not turbo. Sources claim that an 85-horsepower 860cc Pantah is being tested, with the radical displacement boost considered a more workable plan than **turbocharging** the twin. The talk continues that Ducati will market a slightly tamer version of the bike soon.

• In some talk about non-motorized possibilities, well-placed sources confirm that several American helmet manufacturers are paying more than passing interest to a foreign helmet with an **inflatable** inner liner. The point of interest is that the liner can be deflated so that the **helmet** can be removed more easily from an injured rider.

• In proof that at least someone sees blue sky over Washington, sources to the East suggest that once the Reagan administration begins to flex its clout, **EPA** pollution standards—and the resultant effects on new-model vehicles—will be **cut back** considerably.

## AFTER THE FACT

• If you've been hanging around **Husqvarna** shops in hopes of seeing the 1981 Marzocchi-equipped enduro bikes mentioned in October's Trail Test of the 420 AXC, it's time to go home. In fact, you'll have just about as much success finding Marzocchi-clad Huskys in your living room as you would have in a Husky dealership. Husqvarna's 1981 enduro bikes arrive with **Konis,** just as the AXC does. Husqvarna has no arrangement with Marzocchi to supply shocks.

## APART FROM THE CROWD

• File this under small strides gained. Minibikers and mopeddlers have gained a major victory in Brussels, where the Ministry of Public Works will **plow** the snow covering the **paths** the two-wheelers are confined to—for the first time.

• This item was promoted from the Rumors section on the basis of sheer staying power. The old saw about a motorcycle event becoming a part of the **Olympic Games** has been dragged out again. Charges were reportedly dropped against the **ghouls** who unearthed this one.

• And as long as you're in the mood for rumors that made it big, consider the talk about a remake of "The Wild One," with John "Ride 'Em Cowboy" **Travolta** in the **Brando** slot. The story is as yet unconfirmed. It is probably not true, however, that a reprise of the 1953 film that forever altered the way Americans think of motorcycles will result in mechanical bucking hogs appearing in trendy bars across the country. •


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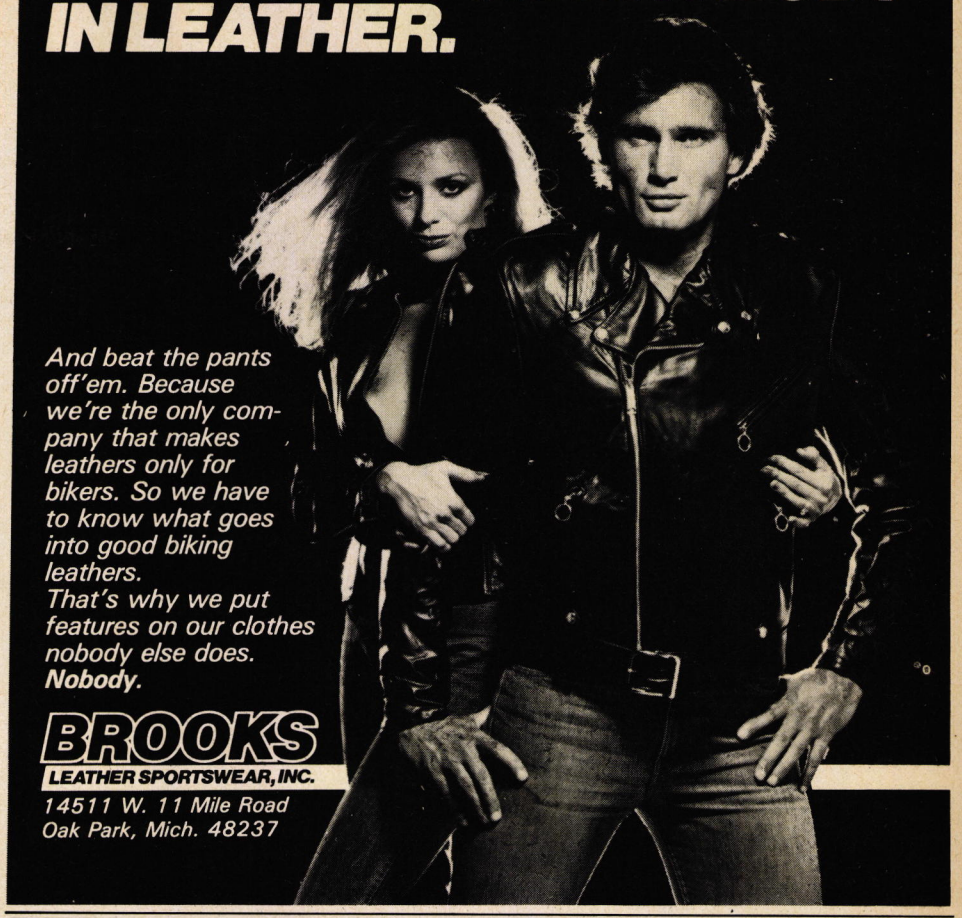

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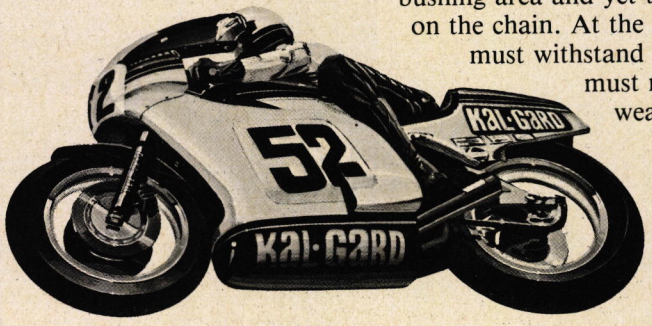
For example, motorcycle chains have a very special lubrication requirement. The lubricant must be thin enough to flow readily into the critical inner bushing area and yet thick enough to stay on the chain. At the same time, the lube must withstand very high loads and must not wash off in bad weather. The answer is Chain Kote! It is blended to penetrate your chain quickly and then thickens rapidly so that it will not wash off and cannot be thrown off at high speed. (You can try the Chain Kote finger test yourself). High loads? Chain Kote contains Moly (molybdenum disulfide), a proven aerospace lube that withstands loads in excess of 350,000 PSI—it is absolutely the best lubricant you can buy for your chain. O-RING chains love Chain Kote! Our rich moly additive actually preserves and lubricates the o-rings, allowing them to last the life of the chain. In muddy or dusty areas, Chain Kote acts as a barrier to prevent dirt and moisture from getting inside your chain.

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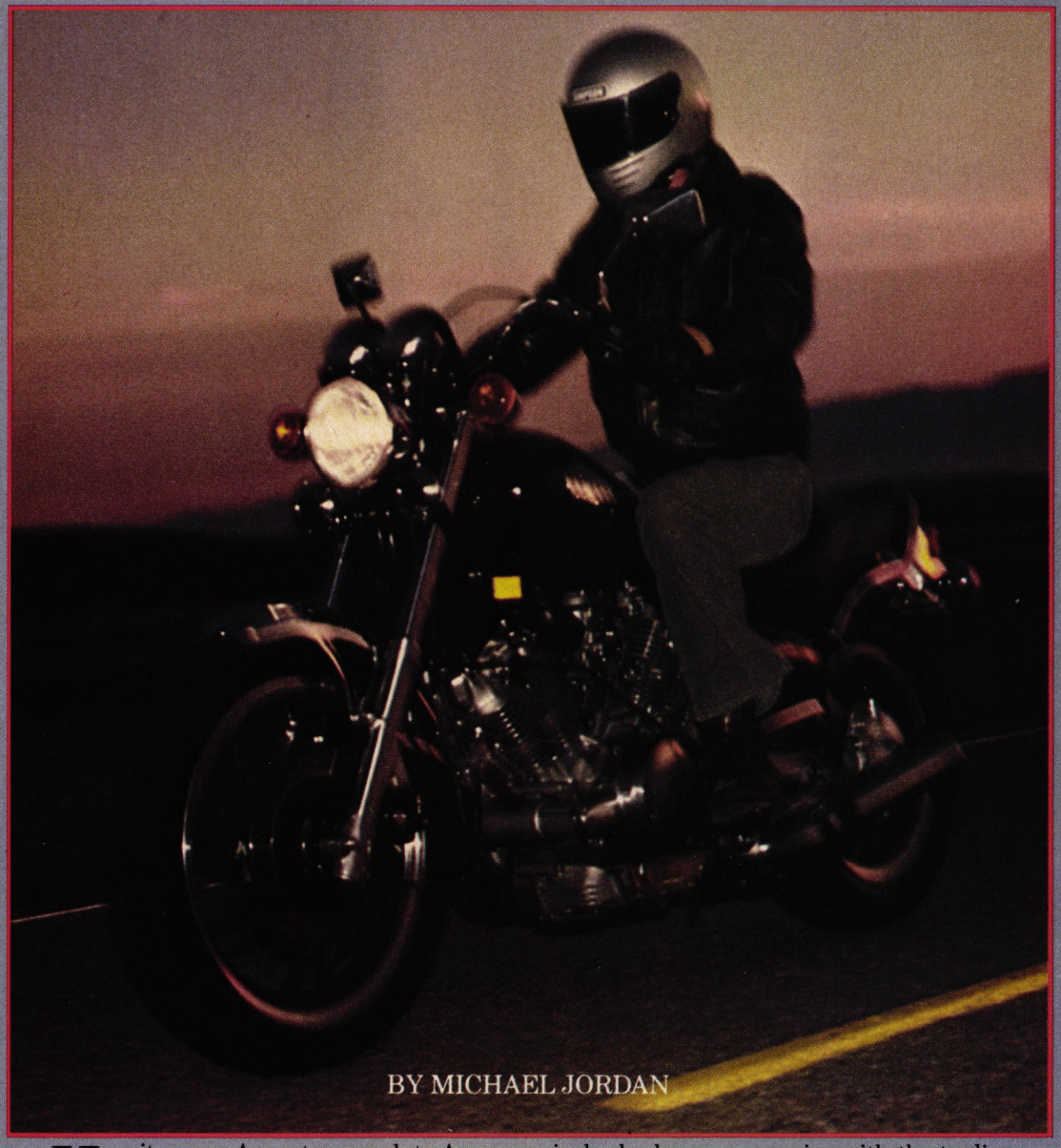
**ROAD TEST:**

# Yamaha Virago

*Rocking down the road to the tune of "Good Vibrations."*



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BY MICHAEL JORDAN

Here it comes. A one-two punch to America's solar plexus, the knockout blow in Yamaha's decade-long struggle to convince us that it understands our unique enthusiasm for motorcycles better than any other company. Yamaha first put on the gloves in 1970 when it created the Triumph-like 650cc XS-1, took the offensive in 1978 with the XS750 Special and proved its championship caliber in 1980 with the XS Eleven Midnight Special. And now Yamaha has cut loose with the Virago, the knockout uppercut, the fruition of a 10-year commitment to the American style of riding. Combining the modern technology of shaft drive and single-shock rear suspension with the traditional virtues of the vee-twin engine, the Virago hits you with a double-barreled thump that's as American as the Dallas Cowboys. It's what riding a motorcycle in the U.S. is all about.

You don't have to look far to understand that the trademark of the Virago's accomplishment is its tandem vee-twin engine. Assuredly, a lot of people will size up this 750cc motor as nothing more than an overhead-cam clone of a Harley-Davidson engine; but that's not the *real* story behind the Virago's vee, for there's more at stake here than just another stab at achieving

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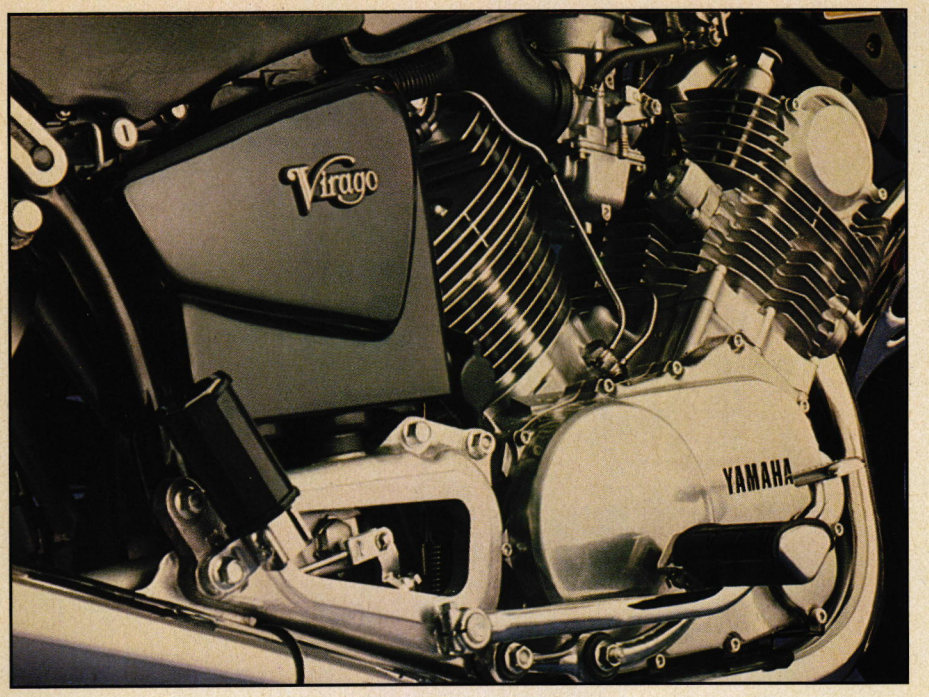
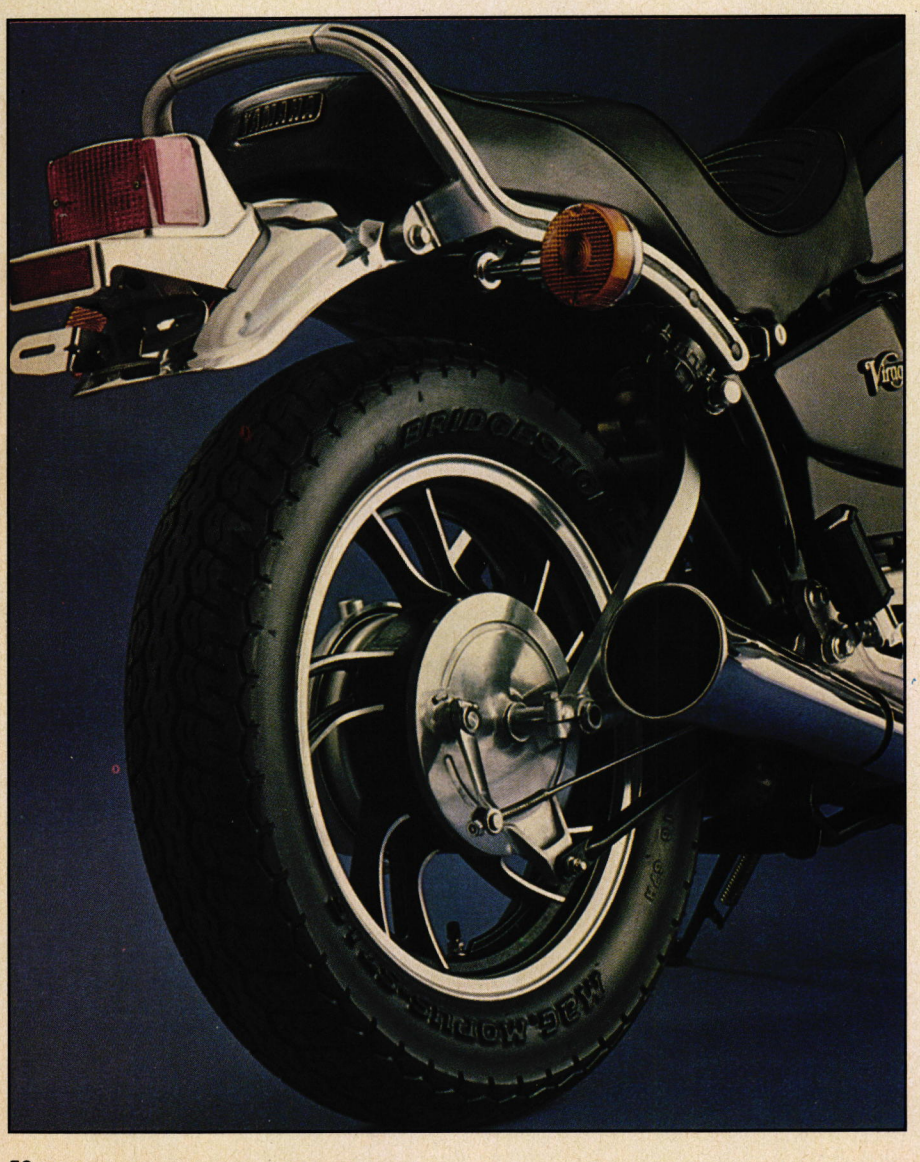



**Virago captures the traditional look with vee-twin and hardtail styling**

*And serves the modern era with sophisticated thumps and Monoshock suspension.*



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classic form. The thump-thump of the Virago's staggered pulsebeat signals Yamaha's turn to a different set of performance parameters than those offered by the ubiquitous multi-cylinder motorcycle. Because whatever cosmetic impact this engine might have, its performance assets are as verifiable as a computer printout and as provocative as the smell of hot oil. After all, even Harley-Davidson's success is founded as much on the hard rock of vee-twin reality as it is on any mystique that goes with the H-D territory.

Those clear-cut vee-twin virtues are very persuasive indeed, and for a number of reasons. First, the simplicity of two cylinders is appealing in the face of the current trend toward a multiplicity of cylinders, valves and camshafts, not to mention the maintenance hassles that such complexity can bring. And of all possible two-cylinder configurations, none make as much good sense as a vee as a means of propelling a motorcycle. For one thing, any vee with a spread of between, say, 60 and 120 degrees offers low levels of vibration simply because the primary imbalance from one cylinder is largely offset by the secondary imbalance of the other, and vice-versa. What's more, a vee can be made about as narrow as a single, meaning that an extremely low center of gravity is possible through a low engine placement. That engine location is also why a tandem vee can permit an unusually low seat height.

Then there are the power aspects of a twin. It's a proven fact that the thrust from two large pistons can push a motorcycle forward at low rpm with authority while the three or four or six small pistons in a multi are still struggling to get their legs beneath them. We're talking real torque here, and a vee-twin can churn out enough of it throughout the rpm range to produce incredible flexibility. Furthermore, due to its having a more favorable surface-area-to-volume ratio, a twin wastes less of its combustion energy through heat-loss than a multi, so it can squeeze more mpg from every drop of fuel. And let's not underestimate the way in which a vee-twin's peculiar low-frequency vibrations can tap a subtle undercurrent of enthusiasm in your soul, even if you're dedicated to teacup-size engines with 20,000-rpm redlines. In other words, a vee-twin is really *made* for a motorcycle.

The engine Yamaha created to satisfy our latent lust for vee-twin power isn't particularly high-tech in broad outline. There's a 75-degree angle between the two slightly offset jugs (a Harley's are at 45 degrees; a Ducati's at 90 degrees), and a single overhead cam in each cylinder head

operates two valves through conventional rocker arms. So as a hunk of metal, the engine's execution is quite ordinary. Yet in detail, Yamaha has hammered this vee-twin into a shape that will be palatable to riders too sophisticated to tolerate less than the best.

To begin with, the engine is a stressed member of the chassis, so it hangs beneath the unusual-looking pressed-steel backbone frame without a downtube to mar its appearance. Yamaha solved one of the vee-twin's traditional problems—intake plumbing—by routing air from the airbox beneath the seat, through the frame backbone and into separate rubber intake tubes for each 36mm Hitachi constant-velocity carb. Even more interesting is that the crankshaft rotates "backwards" (clockwise as viewed from the left). This was done mainly to allow proper direction of output-shaft rotation using a geared primary drive and only one jackshaft; but a secondary benefit is that the backward rotation also transmits the engine's residual vibrations to a rearward segment of the frame that, according to Yamaha, absorbs those vibes more effectively than the front of the frame. So although the Virago's vee is, in many ways, a thoroughly conventional engine, it is one which has been updated to meet the expectations of the Eighties.

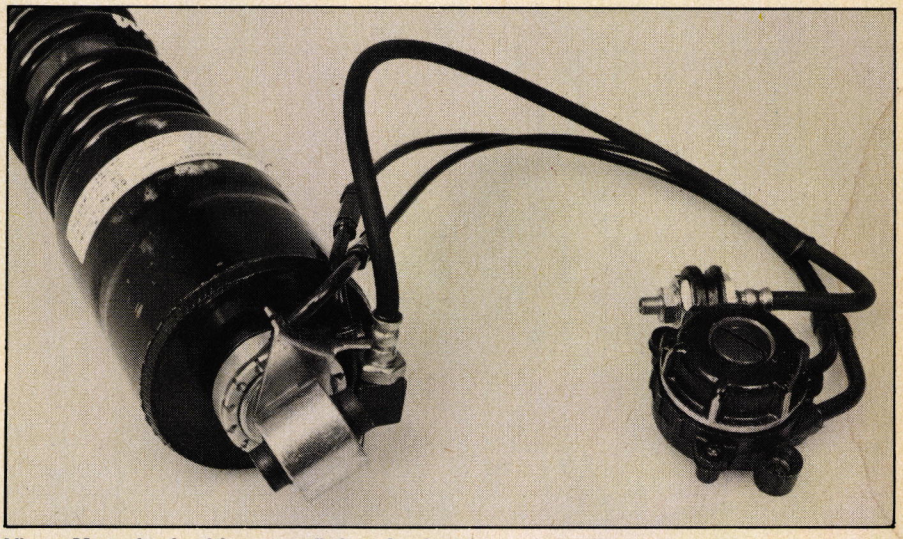
After the starter grinds and the Virago's engine comes to life—a distinctive rumble spilling from the twin pipes—you'll be forced to agree that this engine has soul, no matter how jaded you might be. You can thumb the grip-mounted choke to the off-position within 30 seconds and the vee settles into a consistently uneven cadence, its systolic and diastolic vibrations hooking up with the natural rhythms of your own pulse. Better yet, you register the motor's vibes only through the footpegs and the pit of your stomach, rather than through the rubber-mounted handlebar and the seat of your pants. For Yamaha, of course, it's nothing new to get an engine's sensations exactly right—gruff, reassuring, but never vulgar. Yamaha understands as no other manufacturer does the subjective mechanical inputs a bike should deliver; it understands the difference between good vibes and bad vibes. The XS850 and XS1100 engines attest to it.

What *is* surprising, though, is the Virago's real performance advantage over other engines. The motor opens up a new world of motorcycle motivation as soon as you get underway. Admittedly, you do have to ease the bike into motion with the clutch, because it lets the drivetrain lurch a bit at the end of its travel. But once you're rolling, you've immediately got real power on your hands. The engine is at its best when you use 5500 rpm as a shift point and 4000 rpm as cruising speed, so you rarely feel the urge to extend the motor to its 7000-rpm redline. There's plenty of power up there if you're after it, of course, enough so that Yamaha has cast a sturdy mounting boss into the front of the engine "to locate accessories," a lug that will no doubt be put to good use in the Yamaha flattrack racer currently under development by Mert Lawwill. Indeed, we've even taken to calling this vestigial motor-mount the Lawwill Lug.

Lots of revs produce a fair amount of noise and footpeg vibration, but the engine doesn't try to shake itself apart. Still, you'll be happiest lugging the Virago engine somewhere below 2000 rpm, then grabbing the loud handle and revelling in the engine's smooth, stumble-free acceleration into a relaxed canter.

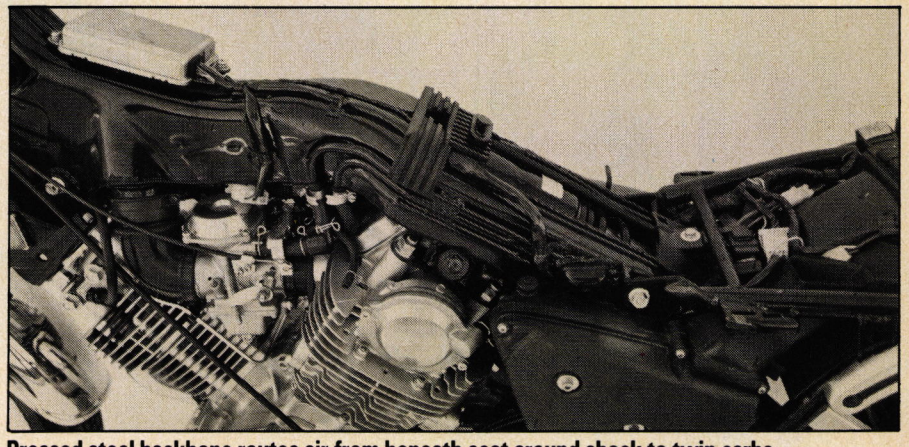
According to its dyno numbers, the Virago twin isn't as powerful as other 750s, but its tremendous flexibility gives the illusion of liter-motor capacity. There's never any need for lots of revs and frantic gear shifting. Since Americans seem to place a premium on gentle but precise throttle control, that's what the Virago delivers. So smooth, effortless and refined is the Yamaha vee-twin that at 4000 rpm you feel as though you're riding a surfboard locked into an invisible wave of horsepower. Only when the gas pump gives you the 50-mpg good news will you be reminded that the Virago's jugs displace only 750cc.

It's one thing to produce the soothing beat of the archetypal vee-twin that all American motorcyclists seem to have swimming around in their subconscious, of course, and quite another to furnish the accoutrements of modern-day motoring. That's why the Virago is so admirable. It has dragged the vee-twin concept into the modern era. Yamaha figures that Virago guys will be more interested in freedom than fiddling, so shaft drive was the obvious choice to connect the engine with the bike's fat, 130/90-16 Bridgestone rear tire.



**Virago Monoshock with remote fittings for damping and air adjustment**

*Refitting cables is a must to adjust damping more than 20 percent.*



**Pressed steel backbone routes air from beneath seat around shock to twin carbs**

*An intricate solution to the combined problems of narrowness and nakedness.*

*Continued*

# Brewing a vee-twin to American tastes

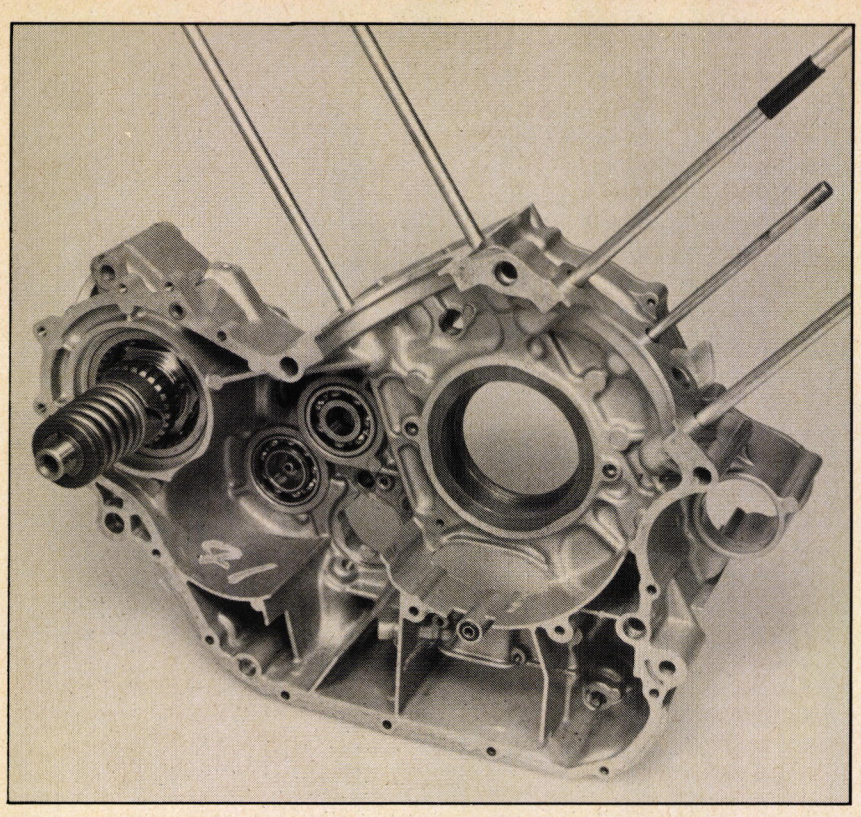
• Yamaha's new XV750 engine was not exactly designed from a clean sheet of paper. Before the Iwata R&D engineers took up their pencils, they were given a set of very specific performance parameters. You see, Yamaha's talks with the sort of people likely to become Virago enthusiasts—traditionalists in the mold of XS650 riders—revealed that the look of the engine was crucial. Indeed, the optimum angle between cylinders could be nailed down at 60 to 75 degrees. Furthermore, these traditionalists wanted an engine narrow enough to keep from interfering with the riding position. Simplified maintenance and shaft drive were also important.

Iwata R&D's work with vibration control and computer modeling on vee-twin engines uncovered a natural balance at a cylinder angle of 75 degrees, an angle which also would keep the Virago's length reasonably short. After this decision was made, the execution of the rest of the engine was actually quite conventional, with few of the tricks you'd expect from an all-new design.

To begin with, the engine is fairly oversquare to reduce engine height and so permit the use of both a wet sump and Monoshock suspension. The jugs are offset by 24mm, the width of a Virago connecting rod at its big end, and they are identical in design. Each cylinder head carries a single overhead cam that operates the valves through rocker arms. The use of Allen-head screws in the valve adjusters, instead of square-head screws, should insure their long life despite the frequent 2500-mile recommended adjustment intervals.

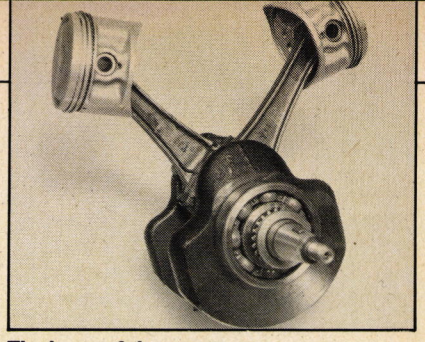
Few surprises lurk in the bottom end, either. The one-piece forged crank carries a straight-cut primary gear at one end and a permanent-magnet alternator (for more flywheel inertia than the variable-field type) at the other. The engine spins backwards like the XS Eleven's in order to get the shaft drive turning in the right direction without adding another jackshaft to the transmission—a result of the decision to use all-geared primary drive and to keep the engine narrow. The primary gear spins the clutch at a comparatively fast rate to permit the use of a smaller clutch assembly and a less-beefy gearbox. Yamaha's usual anti-chatter washer and precise pushrod engagement mechanism in the clutch also ease the connection between sensitive shaft drive and the powerful pulses of a vee-twin engine. A crossover shaft incorporating a cushdrive connects the transmission's output shaft with the spiral-bevel gears of the shaft drive.

As it turns out, the interesting aspects of the XV750 were developed as a result of the special requests of the potential Virago enthusiasts, not the problems of the vee-twin engine itself. For example, Yamaha made the XV motor a stressed element of the Virago's frame so that no downtubes would detract from the engine's appearance. The motor is attached to the pressed-steel frame backbone at three points, the rearmost of which uses a small amount of rubber to allow for thermal expansion (but not for vibration isolation). The engine's components are also ruggedly built in stress areas



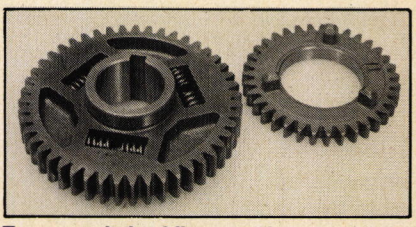
**Compact vee-twin crankcases with large-diameter studs, conventional cush-drive**

*Squeezing together starter, sump and shaft into a manageable package.*



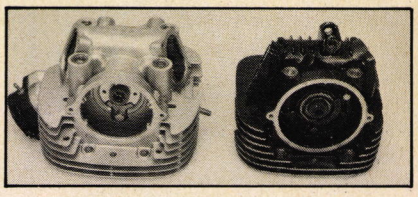
**The heart of the matter**

*One-piece crank survives big thumps.*



**Two cam-timing idler gears in one**

*Sandwiched together to eliminate noise.*



**Similar Virago and SR250 heads**

*Cams slide into locating bearings.*

to withstand structural loads, and they're bolted together as snugly as possible. That's why the engine has one-piece cylinder heads without rocker covers and why the diameter of the cylinder-head studs (10mm) is larger than it would be otherwise. The same goes for the special cylinder-head and base gaskets. The heads use narrow, sandwich-type asbestos gaskets and the metal-to-metal contact area is much wider than usual to provide even more structural rigidity. The cylinder base gasket also has a broad metal-to-metal contact area, although a rubber O-ring is used as a seal.

The task of making the XV engine as narrow as possible required some design tricks as well. The location of the intake plumbing posed the largest problem. In order to keep any part of the intake system from fouling the rider's legs, air is drawn into the frame backbone from an airbox under the seat. Twin rubber airhorns within the backbone funnel air to the two Hitachi constant-velocity carbs. Because the rear cylinder usually runs cooler than the front cylinder (air wraps around the front tire at speed and hits the rear cylinder first), the two carbs use different jetting. The front carb has a stiffer spring on the vacuum-operated throttle slide as well as a leaner needle to forestall richer running as the cylinder heats up. The intake manifold for the front cylinder also is fitted with an anti-backfire valve like the SR500's to keep the forward jug from popping when the throttle is closed suddenly at speed.

The task of narrowing the engine didn't end here, though. Yamaha decided that spinning the two camshafts from a central power take-off on the crank would make the motor an unacceptable inch wider. So each camshaft is driven by a silent chain through separate idler gears. In addition, this cam-timing gear employs an innovative design that eliminates free play and reduces gear clatter in the cam drive. Each gear is actually *two* side-by-side gears spring-loaded so that the teeth of one are staggered about a half-tooth from those of the other. When the gear is fitted in place, the teeth are aligned but preloaded in opposite directions so they try to spring apart. This in turn eliminates any freeplay between the cam idler gear and its drive gear. This device is backed up by cam-chain tensioners that each use a huge, spiral, watch-type spring instead of a coil spring. Because the spiral springs are much longer, tension on the adjuster will be more consistent over a longer period of time.

One last goal the Yamaha engineers wanted to meet involved the right tone of voice for a vee-twin. Ordinarily the poor sound-isolation produced by two separate cylinders plus whirring cam chains would have incurred the wrath of the EPA. Yamaha could have coped with the potential noise problem by strangling the Virago's exhaust as it did with the SR500. But since the right sound was so important, other solutions had to be found. That's why so much importance has been placed on proper cam-chain tension. That's why the cams themselves ride in replaceable insert bushings instead of noisier ball bearings. That's why the oil pump is driven through an adjustable chain and why the left sidecover is insulated. And that's why the complicated intake system proved acceptable to Yamaha's engineers. The Virago has a punchy exhaust note that thrills you because Yamaha's ability to *manage* sound, not just suppress it, enabled the Virago to be tuned to please the human ear.

In operation, the Virago motor proves wonderfully economical and flexible. It has no cold-start problems or ridability glitches. Still, the engine doesn't provide much power, even though the cam profiles were changed at the last minute to match those of the forthcoming 920 vee-twin. Indeed, the dyno curve reveals that more power lies beyond the 7000-rpm redline—although it will be up to racers to find it.

Yamaha's engineers were satisfied with the Virago's power output because they were interested in a different kind of performance, the kind where more than peak power is at stake. The goal was not to build an uncommon motorcycle engine. It was to build a common engine uncommonly well.

*—Michael Jordan*

*Continued*

## The Name Game

• The practice of giving motorcycles names instead of designations isn't a new one. Honda gave us the Dream and the Hawk in the mid-Sixties while in the mid-Seventies Suzuki identified its entire line of street bikes with the names of assorted racetracks. At the moment, names for motorcycles are becoming popular again, but no company has adopted the practice with the enthusiasm of Yamaha.

The way that Yamaha product planner Dennis Stefani sees it, a name adds to the personality of a motorcycle. More importantly, though, Stefani believes a name helps a bike avoid rigid classification by displacement category; it allows a bike to be judged by what it does rather than by the size of its engine. And because Maxims, Secas and the Virago tend to cost more than their rivals in the same displacement category, this aspect of the naming issue makes it easy to understand Yamaha's enthusiasm for motorcycle names.

The bottom line with motorcycle names, however, relates to model proliferation. With so many bikes on the market, it's difficult to know just how each is supposed to perform. Names help break down a model lineup into natural segments, so the positioning of a certain kind of bike remains the same even as its displacement changes. The success of Yamaha's Special nameplate and the enthusiastic reception to the Maxim and Seca series seems to confirm that sort of thinking.

The question on everybody's lips, of course, is how the name Virago was selected. A dive into Webster's unabridged dictionary reveals that Virago means something like a shrewish woman, a connotation which runs the risk of alienating riders rather than attracting them, as do all motorcycle names. But Yamaha didn't select Virago for just its dictionary meaning. When the committee sat down to name the 750cc vee-twin, they wanted to incorporate a vee-sound into the name to reinforce the vee-twin image. Virago came from the dictionary, and a trip to the thesaurus uncovered related meanings of aggressive, loud, fiendish and witchy, all with female connotations. So Yamaha chose to emphasize the onomatopoeia of Virago, while interpreting the meaning as wild woman or witchy woman.

Stefani points out, however, that even though a name gives personality to a motorcycle when it is first introduced, the name soon takes on the personality of the motorcycle. That's why the meaning of the word Virago will be quickly forgotten. After all, how many people know that Chevrolet names many of its full-size cars and wagons after fashionable suburbs? Soon Virago will mean nothing more than vee-twin.

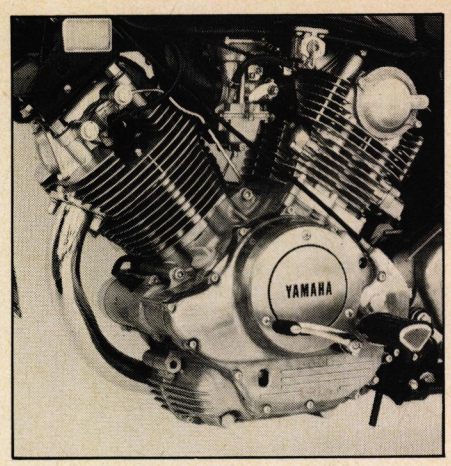
*—Michael Jordan*

Furthermore, this Yamaha shaft has better manners than previous ones from the tuning-fork factory. The up-and-down rear-end jacking typical of shafties is still present at low speeds, but on the open road the connection between your wrist and the rear wheel is far more direct than before. Having fewer power pulses per revolution than a multi helps reduce rear-end antics; but Yamaha also gives credit to refinement of the shaft drive since its original design for the XS750 in 1976 by Getrag, the German transmission company.

The Virago's good rear-wheel manners are also reinforced by the use of Monoshock suspension for the first time on a four-stroke street bike. Ordinarily, the adaptation of Monoshock requires profound compromises in airbox configuration and seat height, but because the vee-twin affords a low seat—and because Yamaha created a special induction system for this bike—fitting a Monoshock to the Virago posed few problems.

A quick inspection of the Virago's shock shows it to be a de Carbon-style unit that bears a familial resemblance to a YZ motocross damper. It does, however, have a number of features expressly designed for street riding. For instance, despite having only a straight-wind coil spring, the shock achieves a progressive wheel rate through the use of a separate air-adjustment chamber. It allows the rate of progression and the spring preload to be easily altered; an air line connects the shock to a valve stem located beneath the right-rear segment of the seat rail. Then the shock itself incorporates 20 rebound-damping settings which are selected by a large external wheel connected to the actual adjustment rod in the damper through a push-pull cable system. Actually, the adjuster wheel only covers six of the 20 possible settings at any given time, but repositioning the cable pulley atop the adjuster rod allows a different six-setting portion of the damping range to be selected. Any span of six settings, incidentally, delivers about a 20-percent difference in damping rates between the lowest and highest positions.

There are a number of advantages to a single-shock rear suspension, but the one Yamaha seems most interested in is the reduction in unsprung weight and the resultant improvement in suspension compliance. This same consideration also is reflected in the use of a lightweight drum brake at the rear wheel and a single disc at the front. Moreover, the front fork is calibrated for a soft ride—although curiously enough, it isn't fitted with anti-stiction bushings like those used on the XS-series street bikes and YZ motocrossers.




**Twin jugs and no support**

*Toward a natural solution.*

Truthfully, very little about the Virago is much like other Yamahas—or *any* other motorcycle, for that matter—including the way it performs. That's something you can't estimate just by looking at this motorcycle. Because the true picture of the Virago's performance only comes into focus when you take a seat and let the road unroll toward the horizon, for it relishes relaxed cruising over terrain that features gentle curves and broad vistas. Part of the reason lies in the engine's ability to lope along for hours without frazzling your nerves. Too, the vee-twin configuration has helped make for a very long wheelbase (about 60 inches) and the steering geometry is deliberately slow, both of which establish the Virago's tendency to favor the straight and narrow rather than the tight and twisty. Still, when an invigorating corner *does* come along, the XV750 manages to glide around it with little effort on your part, although it exhibits minimal café-racer potential.

The ride comes off as compliant, even though the Monoshock suspension has a way of isolating inputs from the seat of your pants so that the fork feels harsh by comparison. Overall, though, the Virago rides better than any other Yamaha (due in no small part to it having a thicker seat than other Yamaha Specials). But the bike does pitch a fair amount over turnpike expansion strips, while large bumps make the suspension feel a little short-traveled compared to the smooth-riding Suzuki GS1100L or Honda CB900C.

Ironically, the very things that make the Virago pleasing beyond the city limits also make it enjoyable within them. There's no better engine, bar none, for urban terrain. And the narrowness of the motorcycle, not to mention its short 29-inch seat height, makes the Virago a pleasant mount at stoplights as well. And because the steer-

ing is slow, Yamaha used ball bearings in the steering stem instead of tapered rollers to lighten steering effort at low speeds. In sum, the drill in town with the Virago is to coast around the turns at ultra-low rpm and then let the engine squirt you down to the next corner, usually without even *thinking* about the shift lever.

Still, the Virago can provide a fair amount of fun in the corners if you pick your spots. It's a lot like the CB900C in that way. The handlebar positions your hands close to where they would be with a more conventional bar, so it's easy to control the front end. The Monoshock suspension adds to the bike's stability in the corners, while the tread designs of the Bridgestone tires keep them from initiating any sort of a weave. The bike is reasonably light, but the engine still won't generate much in the way of warp-speed between corners, and the front brake feels mushy under severe braking (although its stopping distances are quite good). So you're better off being aggressive in long, high-speed sweepers than in switchbacks. You can, of course, enjoy yourself on back roads at a relaxed pace, but tossing the Virago into corners like a racer is all wrong.

In the end, though, the Virago has its priorities straight, for it comes through with the American rider's preferences arranged in the right sequence: a comfortable ride, minimal maintenance hassles, the right look and the proper amount of mechanical soul—with a side-order of contemporary technology, to boot. It's a motorcycle that finally completes the turn away from absolute speed toward more subtle measures of performance, a turn that really began back in 1976 with the Kawasaki KZ900 LTD. And all of the Specials or Customs or LTDs or L-models since then have merely been a means to this vee-twin end. This is the precise look that all of those motorcycles aspired to; more importantly, this is the kind of *performance* they all aspired to. But without that glistening hunk of vee-twin alloy stuffed in its midst, every one of them was incomplete, an unfinished symphony, if you will.

It's tempting, of course, to categorize the Virago as simply a Japanese-built Harley-Davidson, but to do so would unfairly overemphasize the engine and underplay the rest of the motorcycle. Because the Virago is more than just a vee-twin motor. It's a complete motorcycle that has tapped the very wellspring of American motorcycle fever, one to be enjoyed rather than summarily compared to another. To paraphrase William Mulholland, a man who tapped a few wellsprings of his own, "Here it is. Take it." •

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## Ride Review

• Let's set the record straight: I, too, think the Virago is terrific for all of the reasons you've just read, except one—simplicity. Because this particular vee doesn't have significantly fewer wear-outable parts than your average DOHC inline multi.

Okay, so the XV uses only a narrow, single-throw crank and two simple cylinders; it also has two separate cam drives, each of which needs a complicated three-gear intermediate drive (with cush mechanism and zero-lash gear) in addition to the usual chains and sprockets. Then there are twin cam-chain tensioners, dual oil pumps and the added complication of a 14-piece jackshaft that sits behind the gearbox.

I could go on, but by now the message should be clear: Call the XV750 whatever you wish, but unless your standard of reference is a Kawasaki Six or a 747, don't call it simple. —*Paul Dean*

• I really shouldn't like the Virago. After all, I'm not overly fond of Custom motorcycles and have no real passion for Vee-twin motors. Taken separately I still would not be excited about either concept, but Yamaha has proven, to me at least, that the two can work together in one motorcycle.

The ambling Vee-twin motor and civilized chassis combine to make what I always thought a Custom motorcycle should be: a comfortable, laid-back machine for cruising the streets and not for careening up canyons. Yamaha has discovered what Harley has known all along: Four-cylinder screamers dressed for disco don't make Custom motorcycles. But Yamaha has gone further; it has refined the Harley concept with cleaner lines and a more comfortable ride. The result is a Custom motorcycle that appeals to a much wider audience—and that includes me. —*David Dewhurst*

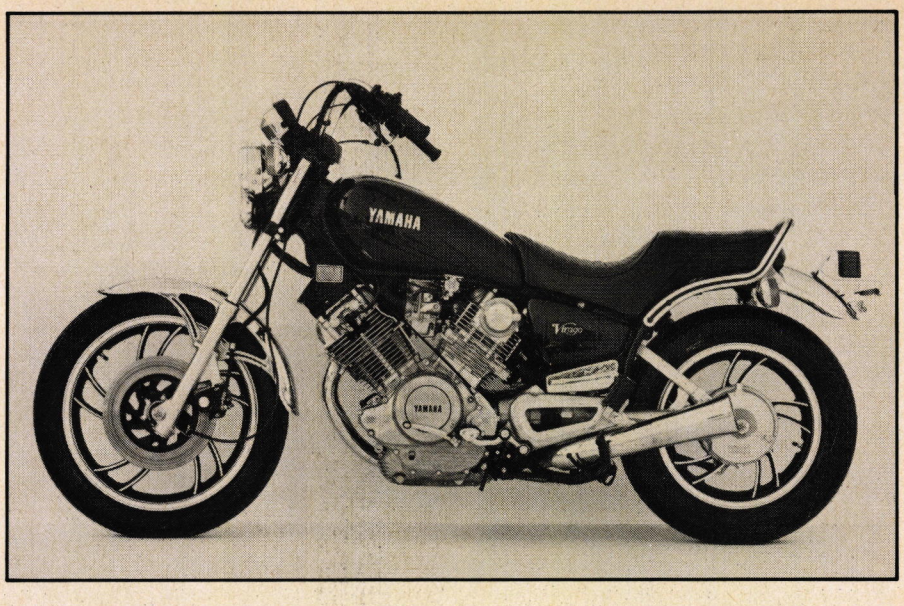
• Yamaha has delivered another blast from the past. First it was the SR500 out of English history and now the Virago comes to us from the days of hard-tails and he-men.

I really enjoyed slow cruising on this 750, thanks to its plentiful torque and throaty exhaust note. And I appreciate its clean lines and svelte profile. But as a citizen of the Eighties, I just can't take this bike very seriously. If I want a classic ride I'll become a collector, and until then, if I want a new machine I'll opt for technological thrills every time. That's why the Virago falls into limbo for me. It combines the sophistication of a stone axe with the authenticity of cubic zirconium. Having a foot in two worlds just gives it a clumsy stance.

The Virago is bound to become the yardstick for measuring all specials. But no yardstick with these markings is long enough to reach my wallet. —*Riley Tharp*

*Continued*

# Yamaha Virago




## SPECIFICATIONS:

**Importer:** Yamaha Motor Corporation (USA)
6555 Katella Avenue
Cypress, California 90630

**CATEGORY:** street

**SUGGESTED RETAIL PRICE:** $2998

**ENGINE**

Type ..... four-stroke tandem vee-twin
Valve arrangement ..... single overhead camshaft
Bore and stroke ..... 83.0mm x 69.2mm
Displacement ..... 748.8cc
Compression ratio ..... 8.7:1
Carburetion ..... two 40mm HSC constant velocity
Air filter ..... disposable paper element
Lubrication ..... wet sump
Starting system ..... electric only
Ignition ..... battery/transistorized breakerless/twin coils
Charging system .. 12-volt; alternator, voltage regulator, rectifier

**DRIVETRAIN**

Primary drive ..... straight-cut gears; 1.660:1 ratio
Clutch ..... wet, multi-plate
Transmission-to-jackshaft ..... straight-cut gears; 1.044:1 ratio
Jackshaft-to-driveshaft ..... spiral bevel gears; 1.056: ratio
Driveshaft-to-rear wheel ..... spiral bevel gears; 3.070:1 ratio

| Gear | Internal gear ratio | Overall gear ratio | MPH per 1000 RPM |
|---|---|---|---|
| I | 2.35 | 12.53 | 5.8 |
| II | 1.67 | 8.87 | 8.2 |
| III | 1.29 | 6.85 | 10.6 |
| IV | 1.03 | 5.49 | 13.2 |
| V | 0.91 | 4.84 | 15.0 |

**SUSPENSION/WHEEL TRAVEL, IN.**

Front ..... air-spring, 36mm stanchion tube diameter/5.6 in. (142 mm)
Rear ..... air-spring monoshock, 6-way adjustable rebound damping/4.1 in. (104mm)

**BRAKES**

Front ..... single action hydraulic caliper, 11.6-in. (295mm) disc
Rear ..... drum, single leading shoe, rod operated

**TIRES**

Front ..... 3.50 x 19 Bridgestone Mag Mopus L303 tubeless

Rear ..... 130/90 x 16 Bridgestone Mag Mopus S716 tubeless

**DIMENSIONS AND CAPACITIES**

Weight ..... 481 lbs. (218 kg)
Weight distribution ..... 45.7% front, 54.3% rear
Gross vehicle weight rating (GVWR) ..... 1205 lbs. (547kg)
Wheelbase ..... 60.0 in. (1520mm)
Seat height ..... 29.8 in. (757mm)
Handlebar width ..... 29.0 in. (737mm)
Footpeg height ..... 11.3 in. (287mm)
Ground clearance ..... 5.6 in. (142mm), at engine sump
Steering head angle ..... 29.5 degrees from vertical
Front wheel trail ..... 5.24 in. (133mm)
Frame ..... pressed steel backbone
Oil capacity ..... 3.8 qt. (3.6/)
Fuel tank ..... steel, 3.3 gal. (12.5/) including 0.7 gal. (2.6/) reserve
Instrumentation ..... speedometer, odometer, tripmeter resettable to zero, tachometer

**PERFORMANCE**

Fuel consumption ..... 47 to 51 mpg (20 to 22 km/l)
Range, maximum ..... 155 to 168 miles (249 to 270 km)
Range, reserve only ..... 33 to 36 miles (53 to 57 km)
Speedometer error, 30 mph indicated ..... 30 mph actual
Speedometer error, 60 mph indicated ..... 61 mph actual
Best ¼-mile acceleration .. 13.281 sec., 99.77 mph (160 kmh)
Top speed (calculated) ..... 105 mph (169 kph)
Stopping distance from 30 mph ..... 33 ft. (11 m)
Stopping distance from 60 mph ..... 132 ft. (43 m)

**WARRANTY:** 6 months

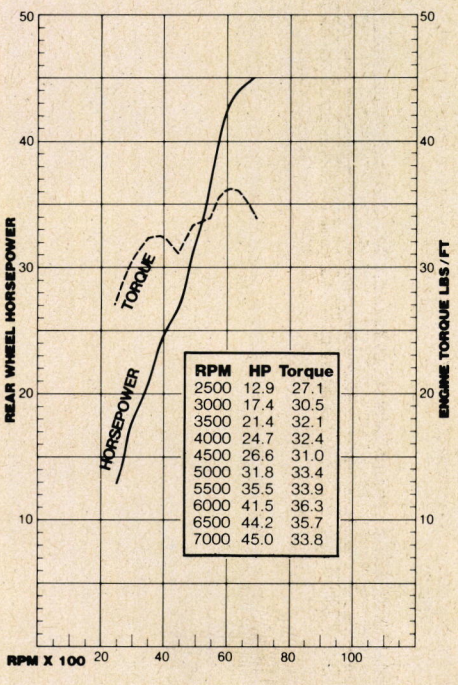
**AVAILABLE COLORS:** ruby red, black

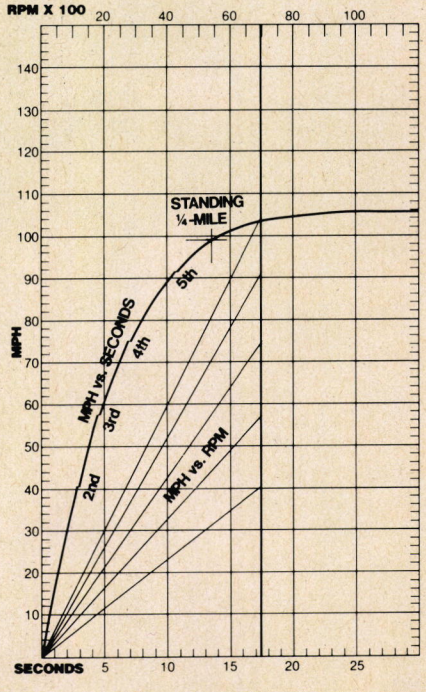
All weights and measurements are taken with machine unladen and fuel tank empty.

## COMPARATIVE TEST DATA:

| Make | Quarter-Mile, sec/mph | Top Speed, mph | Weight, lbs | Stopping Distance From 60mph, ft. |
|---|---|---|---|---|
| Yamaha XV750H Virago | 13.28/99.8 | 105 | 481 | 132 |
| Honda CB900C Custom | 12.44/107.9 | 132 | 588 | 155 |
| Suzuki GS850GLT | 12.67/106.7 | 116 | 546 | NA |
| Honda CB750C Custom | 12.68/105.3 | 128 | 530 | 131 |
| Yamaha XS850LG | 13.10/101.7 | 116 | 548 | 144 |
| Honda XC500 Custom | 14.12/92.9 | 102 | 468 | 146 |

## PERFORMANCE:



# Suzuki launches the Full-Floaters.

You've seen single-shock systems before. Now take a look at the best you've ever seen.

Suzuki's all-new "Full-Floating" system. Standard equipment on the all-new RM-250 and 465.

Heart of this lightweight system, of course, is a large single shock. Which is mounted vertically near the center of the bike's gravity for better handling.

Lower end of the shock is mounted directly to the boxed aluminum swing arm. Also, the upper end is attached by rod and link to the swing arm.

Thus, you have 'floating' ends. Result: The shock compresses smoothly at both ends—responding perfectly to any terrain.

(Like we said, the best.)

These big RMs are also equipped with totally new powerplants. Full-Reed engines with new porting, cases, transmission and clutches. Believe us, the power (especially at mid and top end) is incredible. Definitely not for the faint-hearted.

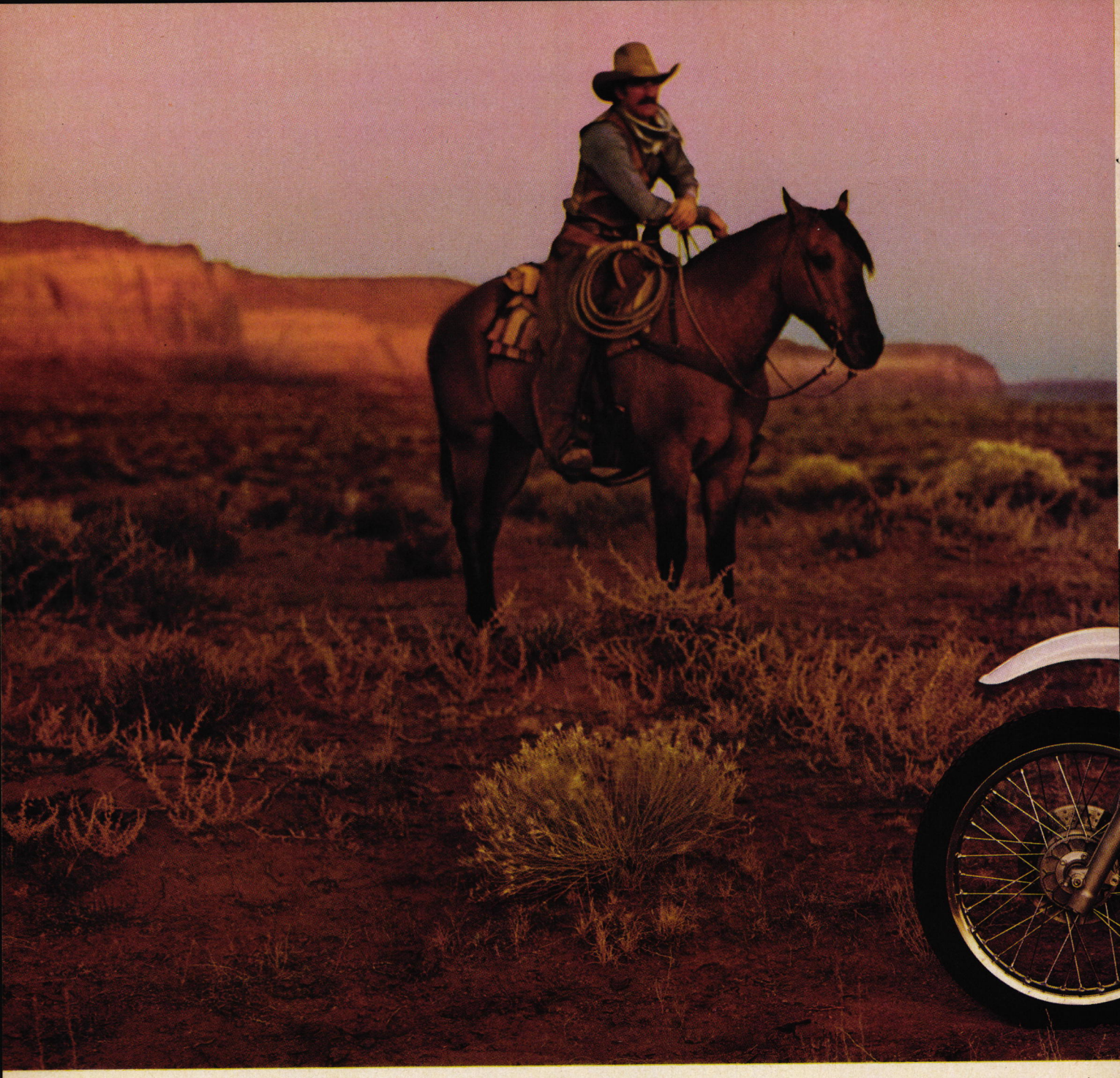
Other hot items that'll please you but not the competition include: Remote reservoir for the rear shock. Works roller-type chain guide. Full-floating rear brake. Maintenance-free PEI ignition. Newly-designed air-assisted front forks. And a whopping amount of travel—11.2 inches up front, 12.7 inches in back.

Now go launch one of these rockets at your Suzuki Dealer.

**Suzuki 1981 The Performer.**

SUZUKI®

Member Motorcycle Safety Foundation. Ride with care. Always wear a helmet and protective apparel. Ride only where authorized and respect the environment.



# BMW INTRODUCES THE R80 G/S.

## FOR TODAY'S EXPLORER, THE BIKE THAT GOES ANY DISTANCE FOR ADVENTURE. AND THEN DELIVERS.

Motorcycling is the sport where Getting There constitutes ninety percent of the fun.

BMW herewith adds the ultimate ten percent.

You are looking at a whole new class of bike designed to carry the real adventurer of today those ever-increasing distances away from civilization. And, at the same time, give him the ability to cut loose once he arrives.

**"Entirely new...untouchable... unconventional."** These words define a special breed of rider just as well as they do the unique new BMW they were recently used to describe.

"Considering its purpose," Motorcyclist's cover story continues, "there isn't another bike that can match its overall performance."

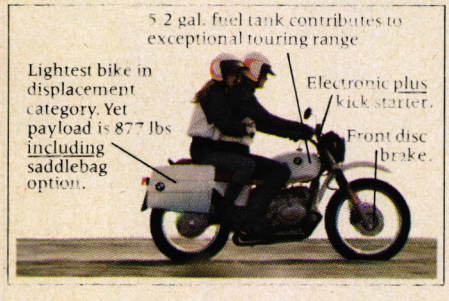
And that "overall performance" includes everything from in-town agility to backwoods roadwork to full-scale touring comfort. All delivered with BMW's widely recognized tradition for troublefree longevity.

**The Two-up Trailblazer.** This is, in short, no dust-kicker made "street legal" by any stretch of the imagination.

Its abundant power is characterized by its "wide powerband and enormous

low-end torque," according to Cycle's recent article.

"It accepts a rider and passenger magnanimously, never lacking the power to pull the extra weight effortlessly."


5.2 gal. fuel tank contributes to exceptional touring range.
Lightest bike in displacement category. Yet payload is 877 lbs including saddlebag option.
Electronic plus kick starter.
Front disc brake.

As an introduction to this new BMW's riding virtues, here are a couple of its startling engineering innovations:

BMW's powerful new monolever rear suspension also houses the bike's efficient shaft drive. This assembly alone is 4.5 pounds lighter yet it increases the bike's torsional stability by fifty percent over conventional suspension design.

New multi-terrain tires have been commissioned to fulfill rigorous high-speed specifications.

And, as with all BMW's, an unsurpassed limited warranty—one full year unlimited mileage—applies to this adventuresome new BMW.

**BMW.**

**FOR ONE LONG SHINING MOMENT, STOP COMPROMISING.**

For a list of authorized BMW Dealers where you can see the 1981 BMW's and for a complete, illustrated guide to them, write Dept. I-3, BMW of North America Inc., Motorcycle Group, Norwood, NJ 07648.

# BUY THIS MOTORCYCLE AND GET A COUNTRY, FREE.

If you think a motorcycle is the only way to travel, we think you should travel down to your Yamaha dealer and take a look at a Venturer.

What you see is what you get: a full wardrobe of made-to-measure touring accessories on a bike with bullet-proof dependability and boasting the kind of exhilarating performance that makes getting there most of the fun.

You even get two ways to go: the Venturer 1100 and the Venturer 850.

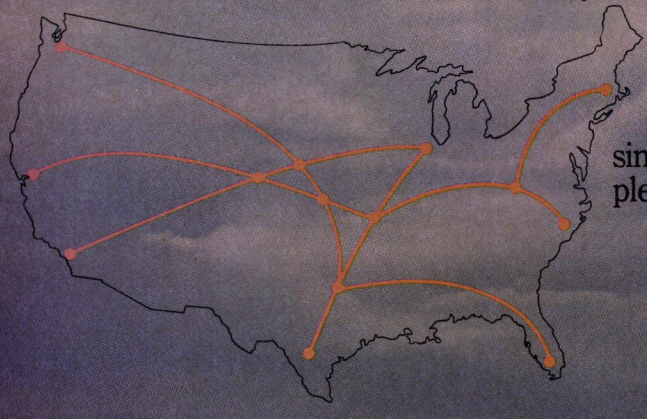
## A TOUR-DE-FORCE.

The backbone of the Venturer 1100 is our XS Eleven Standard, a bike whose touring prowess has been proven by thousands of riders and millions of miles.

It's powerful 1101cc DOHC four-cylinder breathing through four CV Mikuni carburetors will lope along all day with surprising fuel efficiency. Yet it delivers the mid-range punch to rocket around a lumbering tractor-trailer with astonishing quickness.

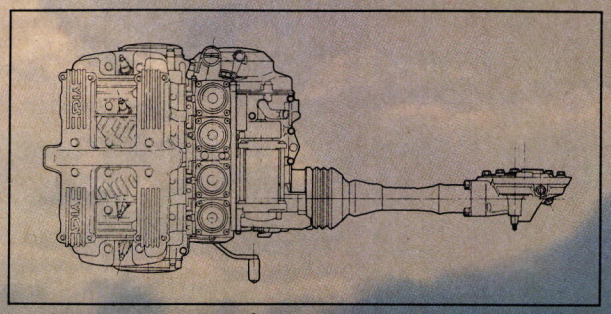
An oil cooler provides added trip insurance. While a fully-adjustable suspension lets you fine tune your ride to any load or road condition. A new, larger capacity fuel tank means lots of miles between fill-ups. And a pair of discs in front and single disc in the rear deliver plenty of stopping power.

The Venturer 850 is as



*Rear view mirror(s) standard equipment. Always wear a helmet and eye protection.*

quick and as torquey as a four. Only it's a triple. So it's narrow and nimble as only a three can be.



An oil cooler helps insure trouble-free dependability. And its Transistor Controlled Ignition contributes maintenance-free efficiency.

Both Venturers come with strong, one-piece cast alloy wheels, cool-running tubeless tires, a quartz halogen headlight, and twin bulbs front and rear for added insurance.

Both carry special heavy-duty rear springs and both are blessed with clean, quiet, dependable direct-coupling shaft drive.

## DRESSED FOR A CRUISE.

We fitted the Venturers with frame-mounted full fairing complete with lowers for optimum weather protection. We added quality chrome engine case guards to surround your investment with heavy-wall steel.

A set of color-coordinated saddle-bags provide ample room to stow your gear. And for additional carrying capacity, there's a chrome luggage rack.

The handsome diamond-stitched saddles on the Venturers are generously padded for all-day comfort. And to help keep your Venturer from venturing off, we've built-in a wheel locking chain that stores neatly out of sight when not in use.

*Venturer 850*

*Venturer 1100*

The Yamaha Venturers. We can give you 50 beautiful reasons why you should own one.

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## PRODUCT EVALUATION:

# Motorcyclist's First Aid Kit

*Carrying minor medical coverage*

• Carrying a first aid kit when you ride might seem like a blatant admission of incompetence. After all, who would willingly admit to the possibility of falling prey to road rash or gravel goosebumps?

Because even imagining a get-off might seem like a failure of sorts, a lot of riders who pride themselves on careful selection and packing of gloves, visors, rainsuits and patch kits never think to include a first aid kit in their collection of gear. They should. Thorough preparation for any ride that takes you far from home should include some consideration of medical supplies.

Coast Cycle Imports now offers a short cut to including first aid provisions as a part of your riding gear. The Motorcyclist's First Aid Kit is, rightly enough, a collection of basic supplies for handling minor medical mishaps. The kit includes basic healing equipment such as swabs, compresses, pads, bandages, tape, tweezers, scissors and a booklet on emergency first aid. Various unguents are also packaged in individual doses for quick, easy use.

With the kit in hand you are equipped to treat the small cuts, scrapes and even insect bites that can occur on the road or trail—and can ruin any ride. A muffler burn that could make for an uncomfortable ride home becomes a problem to be properly dealt with, not simply endured.

When all the provided supplies are stuffed into the red nylon pouch it makes a bundle about 7"x5"x2½". While this is too large to fit under the seat of most bikes, the absence of anything breakable inside means it can be stuffed into some pretty tight spaces. The kit fits nicely in a fairing pocket, tank bag, or tool kit. It rides equally comfortably in an enduro-type tool pouch or large trail jacket pocket.

Some riders might choose to take the long way there and assemble their own kits for roadside first aid. While it's true that you could put together a kit by raiding the medicine cabinet and probably spend less than the $13.95 that Coast Cycle charges, the sheer convenience of a readymade kit removes any excuse to put off being completely prepared.

Indeed, being ready for minor medical treatment by picking a first aid kit shouldn't make you feel like a second-class rider, just a first-class thinker. And it's true that any preventive medicine is a waste of money—until you need it. The Motorcyclist's First Aid Kit is available from Coast Cycle Imports, 1325 Fuchsia Street, Oxnard, California 93030. —*Riley Tharp*

**A Coast compendium of first-aid gear**

*You'll only need it in a scrape.*

# PERFORMANCE

. . . That's what you get with an exhaust system from WINNING PERFORMANCE.

Expertly designed and built, these top-of-the-line systems blend high quality streamline styling and fine craftsmanship to give your machine increased power and better fuel economy.

We take pride in our product and therefore every system is hand assembled and throughly inspected to make sure that you always get the very best on the market.

When it comes to wanting performance as well as streamlined styling, WINNING PERFORMANCE has the answer.

Available in chrome, black chrome or Kal Gard, we have exhaust systems to fit most Honda, Kawasaki, Suzuki and Yamaha models, including the Twins. And for the touring rider who wants to obtain streamline appearance, we have muffler replacement kits to reduce the overall weight of their motorcycle and accomodate saddlebags.

For information and cations, contact your local dealer or **WINNING PERFORMANCE**

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# KAWASAKI INTRODU
# A NEW CONCEPT IN S

Times change. And so do styles. But if you know a classic when you see one, you'll value the new Kawasaki CSR's. Introducing our KZ650CSR and KZ1000CSR street cruisers.

Both are designed the Kawasaki way. Simple and uncomplicated. Two valves per cylinder, not four. Along with no-hassle features like electronic ignition and an automatic cam chain tensioner.

And both bikes are fast. The 650CSR engine holds a dozen world records–in the 750 class, no less.

# JCES
# STYLING. VALUE.

While the 1000CSR is powered by a refined version of the winningest engine in Superbike history.

A few more words about style. You get the custom look of Kawasaki's unique UltraSpoke wheels – 48 chromed spokes, laced to alloy rims with gold nipples.

And, if you want your style in something smaller, there's also a 305CSR.

The new Kawasaki CSR's. More style for less money. But not less machine. In a word, value.

**Kawasaki**

Let the good times roll.

**From $2499.***

Specifications subject to change without notice. Availability may be limited. Mirrors included as standard equipment. Kawasaki believes in riding safely. Check local laws before you ride. Member, AMA and MSF.

*Introductory manufacturer's suggested retail price for KZ650CSR, excluding freight, dealer prep, title, and taxes. Offer valid only while supplies last.

# Total Prices! Free Shipping

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**Windjammer IV** complete $369.95
Black, white or silver w/hardware
**Options:** Lowers **$84.95**,pop vents **$11.95**, Fiamm horns **$23.95**, quartz light **$23.95**, tall shield **add $5.95**
**Saddlebags** w/hardware $289.95
**Tail Trunk** w/lights $173.95
**Vetter Sound** 5" speakers $75.95
**Hippo Hands** protection $38.95
**Cycle Cover** full dress $59.95

**Quicksilver** complete $210.95
Black, white or silver incl. hardware
**Options:** Quartz light **$36.95**, +5 or -10cm shield **add $5.95**, wing tips **$19.95**

**BELL**

**Star II** full face, meets Snell 75 $88.95
**TourStar** flush mount shield $79.95
**Magnum II** open face $71.95
**Moto III** the MX favorite $84.95
**Magnum III** off-road best $68.95
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Call for colors and sizes

**SIMPSON** **NOVA**

**Kelvar 49** Model 30 (RXM-1) $178.95
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**Integral 2** w/flush faceshield $73.95

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**FM-2 Sport fairing** for **Street-type** bars
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Black or white **$109.95** met. silver **$134.95**

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**Note: Some prices may change due to early ad deadlines and late cost increases.**


## PRODUCT EVALUATION:

# The Priority Lites Safety Coupler.

*Light up your life for less.*

• Most of us have ridden on a night that seemed like something out of an Edgar Allen Poe story. Flickering lightning tricks your eyes and tightens your grip. The streaming tarmac seems to disappear every few turns. The world looks pretty bleak.

Have you ever wondered how you look to the rest of the world? The single taillamp of a motorcycle doesn't afford other motorists the depth perception and illumination of a car's twin beacons. A guy could get run over.

Several options are open to improve your riding safety in these circumstances: 1) Stop riding on gloomy nights; 2) Buy the superb but expensive Cyberlite brake-light flasher; 3) Give a Priority Lites Safety Coupler a try.

The Priority Lites unit is a signal splitting module that connects the taillamp to the rear turnsignals. It gives the turnsignals running-light and brake-light modes in addition to their original function. The single filament bulbs of the turnsignals glow constantly along with the taillamp and then brighten to full intensity when the brake light comes on. So motorists following you now see three points of light—or at least have three chances to see you. And the improvement in their depth perception means they can more easily judge the distance between their bumper and your body.

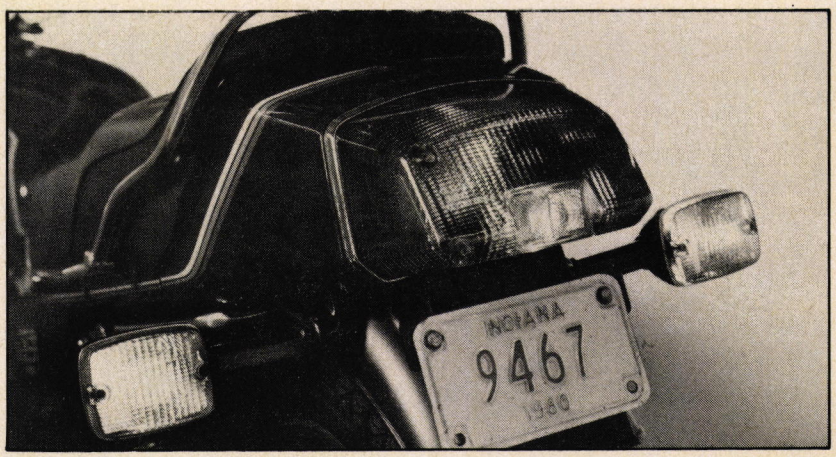
The installation procedure consists of cutting and splicing seven wire combinations to and from the unit. All the unit's wires are color-coded and of ample length to provide a variety of mounting possibilities. The Coupler itself is a plastic box that measures about 3"x3"x1" and has an adhesive pad on the back for easy mounting. It adapts particularly well to newer machines with tail section compartments, though it can be mounted under a seat or side cover as well. Total time for hook-up is about 45 minutes and requires only basic tools.

While it lacks the sophisticated accelerometers and variable light intensity of the Cyberlite, the Coupler has several attractive attributes. It doesn't clutter up the rear end of your bike. It's fairly easy to install. Best of all, the Coupler is cheap. At only $24.95, the Priority Lites unit is an inexpensive way to make your motorcycle a safer place to be seen. You might never know if the extra lighting from the Coupler will save you on some gloomy night, but your ride can seem less threatening when you're going and glowing.

The Priority Lites Safety Coupler is distributed by Sound-Off Safety Systems, P.O. Box 206, 5300 Madison Avenue, Hudsonville, Michigan 49426. —*Riley Tharp*

**The Coupler installs with basic tools**

*Simply glowing with satisfaction.*



# So you want to modify your motorcycle. Wouldn't it be nice if there were a magazine written just to help you do it?

## *There is.*

**CUSTOM RIDER.** A new kind of customizing magazine. Edited just for you, an American street rider looking for ways to fine-tune his motorcycle to his personality and performance needs. Whether it's a cafe racer, factory custom, street superbike or high-performance touring bike, **CUSTOM RIDER** will tell you how to make it better.

**CUSTOM RIDER** also helps with the other side of modification—maintenance. Each issue is full of tips on keeping your pride and joy up to par. And each issue also is chock-full of vital information for repairing, painting and tuning those accessories, too. Plus extensive buyer's guides on everything from shocks to tires to fairings

**All in CUSTOM RIDER, every other month at your favorite newsstand.**

# The rest

## 12-Month Unlimited Mileage Warranty

*Offered only in the 48 contiguous United States and Alaska. Refer to U.S. Suzuki "GS Model Limited Warranty Policy" at Suzuki dealerships. A similar warranty is offered in Canada.

# of the 650 class may now be dismissed.

When Suzuki decides to step into a class, other folks can only sigh. And step aside.

Case in point: The new GS-650E, G and GL. Friends, these bikes aren't just new, they're tomorrow-new.

For instance, the G and GL Shafts are outfitted with a unique transmission/shaft system. Get this: When these bikes are shifted into high gear (5th), the power is transferred directly from the engine to the shaftdrive, thus bypassing the transmission reduction gears. Result: More compact engine, less driveline lash.

You think that's something? Listen to this: The sporty E model comes with an automatic dual damping shock system. So damping rates are automatically adjusted within the shocks as loads and roads change.

You think that's neat? Well, hear this: All three bikes are powered by Suzuki's new Twin Dome Combustion Chamber engine. Without getting into a lot of technotalk, we'll just say that this 4-cylinder, 4-stroke is a powerhouse. Yet, it is extremely fuel-efficient and clean-burning.

We could go on and on about these extraordinary bikes. All three are appointed with CV carbs, transistorized ignition, Quartz Halogen headlight, digital gear indicator, top-mounted choke and accessory terminal.

And each has its own special features. Like tubeless tires and air forks on the G model. Tubeless tires with raised white letters on the GL. And dual slotted front disc brakes with a rear single disc on the E and G.

Also, of course, each of these beautiful machines is backed with a beautiful 12-month unlimited mileage warranty.*

Sure, you've seen 650 bikes before. But you've never seen 650 bikes like these before.

## Suzuki 1981 The Performer.

SUZUKI®

Member Motorcycle Safety Foundation. Ride safely. Always wear a helmet, eye protection and appropriate riding apparel.

## ROAD TEST:

# BMW R65

*Can a middleweight boxer fight its way to the top?*

BY RILEY THARP

• It's time to think of the R65 as more than just a baby Beemer. Finally, it's a grown-up motorcycle. Born-again horsepower is part of the reason, for the 1981 version of the R65 motor has enough poke to be taken seriously. But most of all, the R65 is now as refined as the one-liter BMWs, with the ability to pamper you on long rides in the classic Beemer tradition. In fact, the combination of more guts and more class lend the R65 a kind of everyday versatility that other 650s, let alone one-liter BMWs, cannot approach. The R65 finally has become what BMW meant it to be all along, a lightweight, nimble, good-handling motorcycle able to stand on its own merits, a sporting bike with the civilized blood of the BMW tradition flowing in its veins.

It hasn't been easy for the R65 to find its place. When it was introduced to the U.S. in 1979, traditional Beemer enthusiasts judged it a mere toy, a half-breed that you would settle for only if you couldn't afford a real BMW. Because the marque had always been associated with comfort and touring ability, potential buyers measured the R65 by the same yardstick as the liter-Beemers. And it fell short. Literally. Its small physical size left less room for accessories and a passenger. And the bike's compact wheelbase and shorter suspension travel meant a sacrifice in ride quality. So most people missed the point of the R65, especially if they previously had been BMW riders. They failed to note that the R65's down-size dimensions gave it added maneuverability and that its firm suspension made it handle great in the corners.

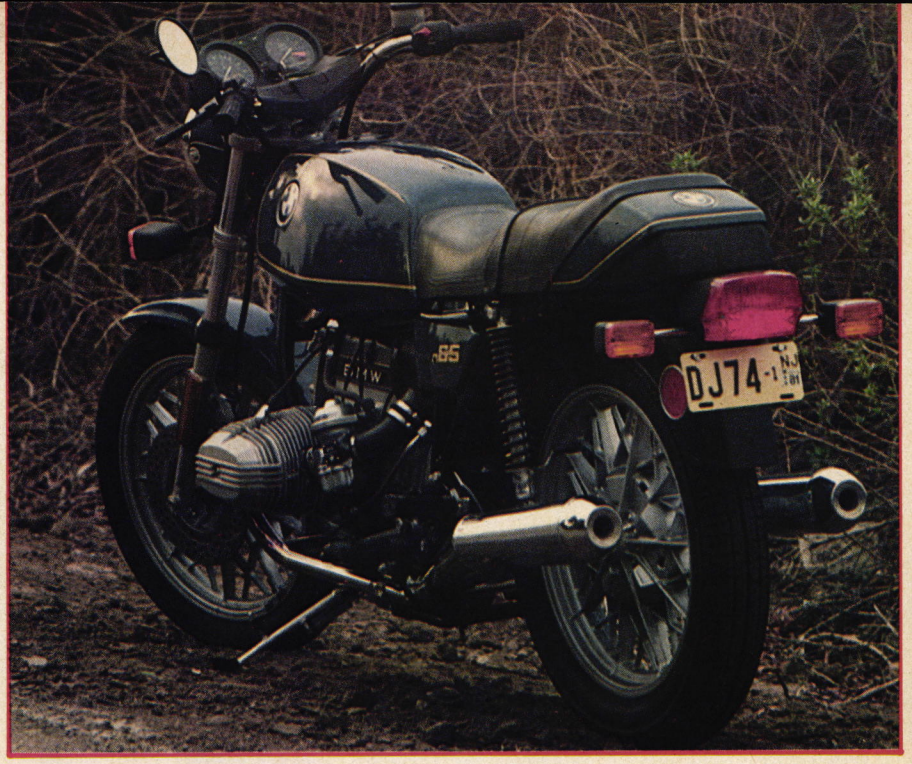
Last year, the R65 had an even tougher time. Stricter emissions regulations took a

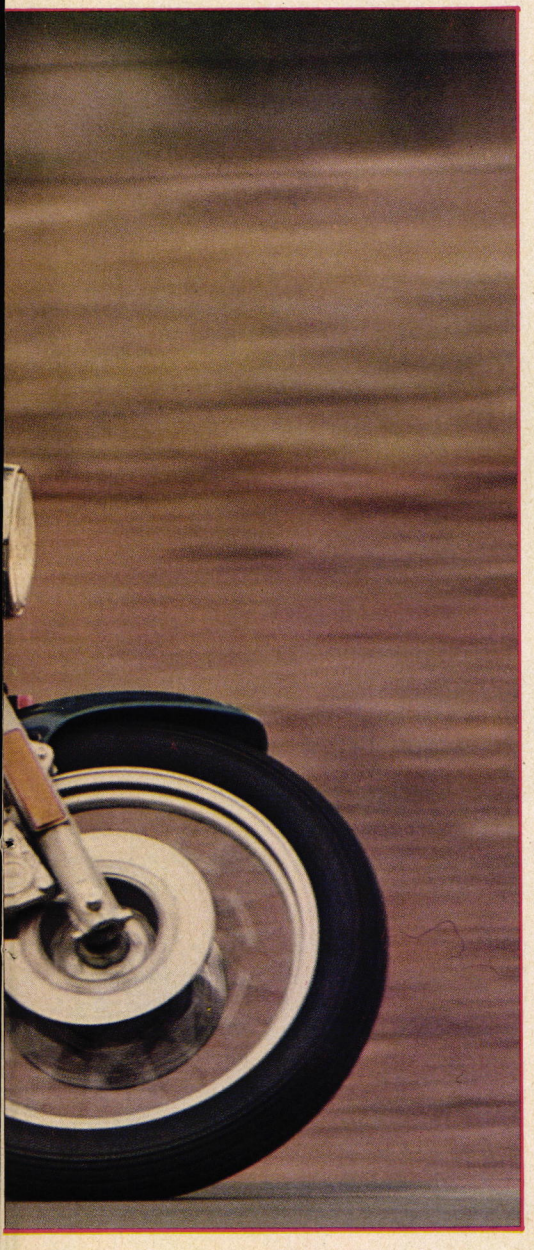
PHOTOGRAPHY © 1981 DAVID CLARK

heavy toll on the horsepower rating, widening the performance gap between the R65 and the big Beemers. Meanwhile, a 22 percent increase in price raised the R65's ante to only $700 short of the full-size R80.

For 1981, the R65 seemingly faces an even more hostile world. The R80 street bike is no longer imported this year, so the R65 must carry the full burden as BMW's only alternative to the big bikes. But to meet this challenge, the R65 has undergone the kind of refinement for which BMW is famous. As a result, it stops quicker, produces more power and runs better than last year's bike and does so with a lower pricetag. So even though a reduction in price from $4230 to $3995 doesn't make the R65 a giveaway, for this lower ante you get the best R65 ever.

The most noticeable improvements in the R65 can be found within the engine.



Like all medium- and small-displacement bikes—but especially all BMWs—the R65 suffered from adapting to 1980 emissions requirements. Peak power dropped eight percent, and more importantly, flat spots in carburetion stopped the motor dead in its tracks at some engine speeds. But for '81, nearly all of the lost power has been restored and all of the carburetion problems solved thanks to concerted refinement of intake tuning. First of all, the intake and exhaust valves are 2mm larger for 1981, and the better breathing which results boosts the engine's output by five horsepower. The addition of a second crossover pipe in the exhaust system also increases torque slightly. Furthermore, an improved version of Pulse-Air, BMW's air-injection emissions system introduced last year (see page 72), does a better job of cleaning up the R65's exhaust. As a result, the 34mm Bing constant-velocity carburetors can be jetted richer than last year, speeding warm-up times and eliminating throttle-response problems.

To complement this improvement in power production, the R65's boxer-twin engine has gone on a diet to improve responsiveness. The engine's short-stroke crankshaft assembly, which makes the motor more than 2.5 inches narrower than the big Beemer twins, is connected to a completely new flywheel/clutch assembly. It's still a single dry-plate unit like most cars use, but now it's 40 percent lighter than before, which means the engine revs quicker.

Further engine weight is saved through the elimination of iron cylinder liners. A thin coating of nickel and silicon is electronically impregnated directly on the aluminum barrels instead, resulting in an overall saving of six pounds. When Mahle (one of BMW's vendors) manufactures the cylinders and pistons, the process is called Nikasil; when Kolbin Schmidt does the work, the process is called Galnikal. Although the new process means the cylinders can no longer be rebored, it increases engine life through improved heat dissipation. And since previous BMW engines were capable of logging 100,000 miles without a rebore, the new cylinders shouldn't cause any durability or maintenance problems.

More power and a lighter flywheel vastly improve the feel of the 650 BMW engine. The way the new motor produces power, in fact, almost overshadows the horsepower increase itself. It reminds you of pre-EPA days. On warm days no choke is needed, and when the temperature drops, the R65 requires the choke for only a few minutes. As soon as you roll out of your driveway, the motor accelerates without a stumble. Throttle response is immediate thanks to the CV carbs; but equally important, it is linear, with none of the surging and leanness shown by so many finicky medium-displacement bikes. This feeling of responsiveness is amplified by the lighter clutch and flywheel. The R65 revs quicker than any previous BMW, so its acceleration is noticeably improved. In this way the engine seems to have more power than its modest rating would suggest.

You'll notice another benefit of the engine's new-found crispness when you first pull away from a stop. Coordinating the throttle, clutch and shifter comes to you

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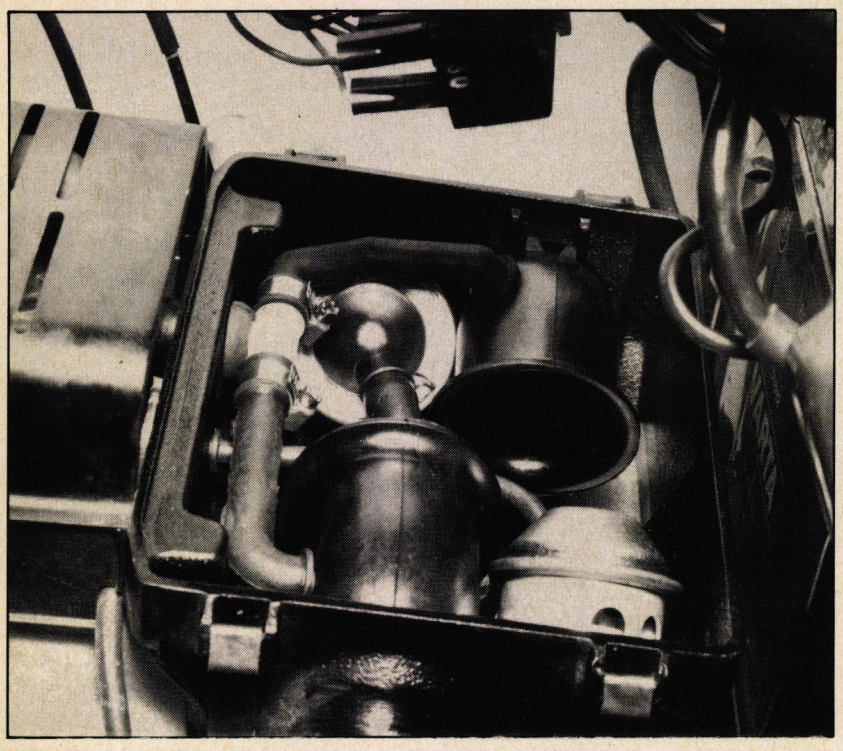
# BMW's Emissions Strategy



**BMWs improved Pulse-Air system allows near-normal jetting for better ridability**

*Clean and quiet enough for the Sierra Club picnic.*

• The 1981 BMWs are proof that you can teach an old engine new tricks. Though the BMW engine design dates from 1923 and the last substantive change in the formula occurred 11 years ago, the 1981 version doesn't suffer from the application of clean-air standards the way that a lot of more modern engines do. While other engines hobble along with long warm-up times and carburetion flat spots, BMWs are running better than ever.

Much of the new-found civility in this year's BMW engines can be credited to finer tolerances during manufacture and assembly. This year's air box is made from plastic instead of sand-cast aluminum, which reduces the turbulence and restrictions that flaws in casting can produce. Though it sounds incredible, BMW claims the flow of intake air is more predictable, permitting jetting to be close to the limit of leanness without risking stumbles during acceleration. In addition, the carburetor slides are located more positively to reduce the possibility of any variations in fuel mixture. The new Galnikal/Nikasil coating process for the cylinders, meanwhile, permits a tighter piston/cylinder fit for even more control of combustion.

Most of the credit for the improved manners of Beemer engines, though, must go to BMW's Pulse-Air emissions control device, first introduced last year. It's a model of simplicity. Two steel air lines connect the airbox with the exhaust ports. The vacuum created by the flow of exhaust sucks air through a one-way reed valve in the air box. The added blast of oxygen in the exhaust port continues the burn of the spent exhaust in the header pipe, turning the header pipes a deep blue from the heat produced, but more importantly reducing the hydrocarbons at the tailpipe.

Just as with Kawasaki's reed-valve air injection system, the Pulse-Air system allows carburetor jetting to be rich enough for good ridability without provoking the wrath of the EPA. In addition, the lower compression ratios introduced recently combine with lower cylinder head temperatures from the Pulse-Air device to permit the use of regular gas without the risk of detonation, the bane of BMWs for the last several years.

Thanks to Pulse-Air, BMW has found the closest thing to a free ride on the clean-air wagon. In typical BMW fashion, the BMW engineers have brought their motor into the Eighties without resorting to needless complexity. They've been telling us for some time that constant refinement—narrowing the gap between engineering blueprint and finished product—is the secret to good performance. And after riding the revivified boxer twins, you have to believe that they're right. —*Riley Tharp*

far more naturally than with older BMWs with their sluggish large-flywheeled engines. Steady work over the past few years with cush-drives has taken the clunk out of upshifts on BMWs, and now the R65 engine takes the lurch out of downshifts as well, since the task of matching engine and gearbox speeds is simplified by the motor's responsiveness. No longer will passing motorists mistake your shifting tactics for those of a truck driver.

Getting away from stops is also simplified by the lighter pull of the clutch lever. Plain bushings at either end of the clutch actuating rod and a needle bearing on the clutch pivot arm add needed support to the release mechanism. This lightens the pull of the clutch lever substantially and makes far more progressive engagement possible. Still, the transmission does require a long throw to change gears. And the tranny will sometimes balk a bit on chilly mornings before its separate bath of 90-weight transmission oil warms to operating temperature.

A more sporting engine for the new R65 is matched by a more sporting chassis. Veterans of long wheelies on 1979 R65s may not like it, of course, but a 10mm increase in swingarm length makes the bike better by giving the front end more bite in the corners. The additional length to the short-coupled BMW also adds directional stability and reduces pitching. In addition, the swingarm is now constructed from larger-diameter tubing, and gusseting has been welded in place for greater strength (like that of the dual-purpose R80 G/S). Also, the new die-cast final-drive housing should put an end to the weepage of oil that was characteristic of the old porous sand-cast units.

These refinements in engine and chassis insure that more than any other BMW, the R65 is at home when the road gets twisty. Even with the longer swingarm, the R65's wheelbase is short enough to allow it to change direction quickly. A low center of gravity fostered by the flat-twin engine helps in this regard, too. Light weight and quick steering geometry keep the steering light, while the firm, short-travel suspension steadies the bike as it carves toward an apex. As with most BMWs, the R65 is really at home on long, sweeping curves, but it has a dimension of agility that its bigger brothers do not.

The R65's ability to accelerate rather than trundle from corner to corner is complemented by powerful and progressive brakes. The former single disc front brake already featured the excellent metallic pads that larger BMWs acquired this year and now a second disc has been added to

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improve resistance to brake fade. As with throttle response, the brakes respond in a perfectly linear fashion that few other bikes can emulate. Wet weather braking is also excellent.

Although crisp, agile handling is what makes the R65 a standout among BMWs, the bike still delivers the comfort you'd expect from its heritage. Despite a compact wheelbase of only 55 inches, the ride is fairly stable and there's really enough room for passenger as well as rider. The suspension isn't exactly Suzuki-like in its compliance over small bumps, but the ride isn't choppy either. Only the bike's tendency to fall into any groove or rut in the pavement surface undercuts the R65's performance as an Interstate armchair. The seat has softer foam this year, although the padding has been thinned to lower the seat height as well, so you may find that the seat actually bottoms out too easily. Even so, the long cruising range that the R65's combination of 5.8-gallon gas tank and 45-mpg freeway thirst delivers can be taken advantage of without risking a trip to the nearest chiropractor.

There is yet another side of the R65 that reveals the way it has matured into a full-blown partner in the BMW tradition. Like all BMWs, and in fact better than most, the R65 will drone along in daily service with doorstop-like reliability. And you don't have to spend much time keeping it sharp, thanks to easy valve adjustment, long service intervals and the new transistorized ignition. Big-time BMW touches are also evident in the R65's detailing. The redesigned tail section contains a large storage compartment that supplements the removable tray above the battery. A full kit of high-quality tools also is included with the R65 just as you would expect from BMW.

In spite of all these improvements, there are still flaws in the R65's character, of course. You might assume from its engine improvements that the R65 has been elevated to high-performance status. But you'd be wrong. The little Beemer might feel quick compared to bigger BMWs, but old engine designs only partially yield to modern-day tuning tricks, so the R65 is still down on power compared to the Japanese 650cc fours. The R65 isn't really slow, it's just that technology has pushed middleweight performance along at a furious rate. As a result, the R65 is on par with other 650s only when it comes to roll-on acceleration—otherwise it is more like a 400-class bike. Vibration also plagues the little twin. A gentle rocking at idle gives way to exceptionally smooth power below 4000 rpm. From 4000 to 5000 rpm, though, the engine shudders annoyingly, which means that cruising above 60 mph is an uncomfortable experience. The former editions of the R65 also vibrated in this manner, though at lower rpm.

Yet even these flaws cannot spoil the fundamental appeal of the R65. Sure, it may not be as quick as its frenetic class-

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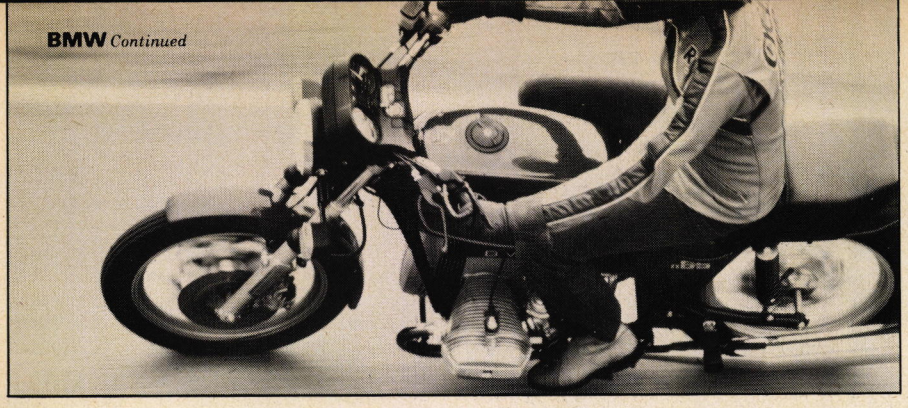


mates, but the R65 has other, more civilized abilities. As a sport bike, it is nimble without being erratic. As a touring mount, it is far more comfortable than any bike its size. And as an everyday ride, the R65 is constant and easy to live with. Overall, it seems perfectly tailored for your basic civilized, discriminating, blue-blooded rider who understands the difference between a one-dimensional motorcycle and one with character.

It is this sense of balance that brings the R65 out of the shadow of its larger stablemates. The little BMW has at last had time to receive the kind of evolutionary improvement for which the German maker is famous. And the improvements help to integrate the rowdy, sporting instincts of the 650 with the blue-blooded maturity of the rest of the BMW line. The R65 is far more than just a less-expensive alternative to a big BMW. It's a full-blown BMW in sporting trim. Like the rest of the BMW line—and unlike other 650s—the R65 isn't just a stepping stone to a more sophisticated bike; it's a worthy end in itself. •

# Charting the Changes

**Engine:** Iron cylinder liners replaced by thin spray-coating of nickel-silicon. Intake valve diameter increased 2mm to 40mm; exhaust valve diameter increased 2mm to 36mm. O-ring grooves machined in base of cylinders for improved sealing. Improved Pulse-Air emissions system reduces backfires during deceleration and permits richer carburetor jetting. Bosch electronic ignition added. New oil pan with improved baffling and 0.2 quarts greater capacity insures better engine cooling and adequate supply of oil during acceleration and deceleration. Addition of second balance tube to exhaust system increases torque.

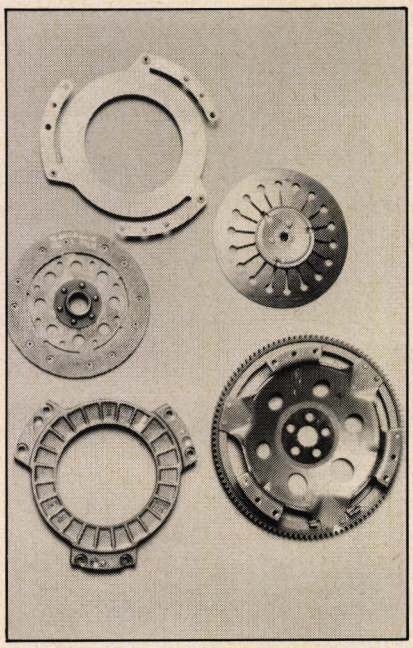
**Drivetrain:** Stronger die-cast final drive housing with greater oil capacity—identical to the one used on the off-road R80 G/S—replaces former sand-cast item, also eliminating oil weepage. Weight of clutch and flywheel unit reduced 40 percent. Added bearing support to clutch release mechanism reduces clutch lever effort.

**Suspension:** Swingarm built from larger diameter tubing and gusseting added. Swingarm length increased 10mm as well.

**Brakes:** Second front disc added.

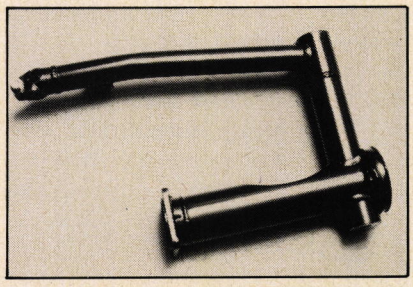
**Dimensions and capacities:** Oil capacity increased 0.2 quarts. Wheelbase lengthened 10mm for greater stability.

**Details:** New seat has softer foam for improved comfort and thinner padding for lower seat height. Additional storage area created under new tail section. New kickstand. Price reduced $235 from 1980.



**Clutch/flywheel weighs 40 percent less**

*A light-hearted and happy engine.*



**Stronger swingarm is also 10mm longer**

*Causing a mass exodus to the front.*

# Ride Review

• I could ride the R65 fast all day on twisty roads. But that is all I could do with it. In any other situation I must label this BMW my least-favorite bike. BMW used to be renowned for smooth motors and supple suspension, but the R65 exhibits all the subtlety of a pneumatic drill. Hard acceleration has the tank shaking like something from a Swedish gift shop. And cruising on the freeway the fork never seems to move.

Admittedly, the new motor does have more power than before, and the stiff suspension allows the bike to swoop turns without a wobble. But need we pay such an uncomfortable price for performance? And do we have to pay $4000 for such discomfort? Not me, I'd rather have two Japanese bikes for the money, a stocker for the street and a racer for the twisties.

*—David Dewhurst*

• No BMW before the new R65 really made me feel welcome. Oh, I enjoyed them, all right, but it was more like being a guest than a live-in. Bolting the BMW legend in place always seemed mandatory, and it put me on the defensive—like having an excuse ready for non-performance, just in case. And the prices were punishingly high, even down to the R65, which I figured was mostly an overpriced mid-size bike trading on its good family name.

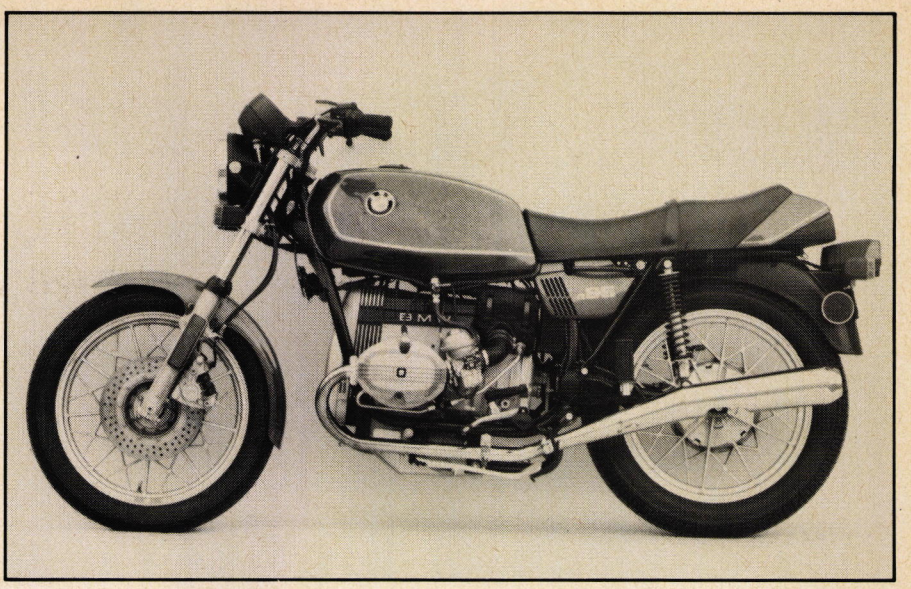
I've been educated on the subject by the new R65, though. Part of it is that the going price for any good 650 is creeping steadily toward the R65's. Part of it is that BMW has reinstalled some of the horsepower lost in the '80-model. But that's not all. With the new R65, BMW is hawking an utterly refined motorcycle that's completely agreeable to a little scratching when the spirit moves you. Suddenly, it's like coming home. *—Larry Works*

• Listen. Speed is really the issue here, right? After all, last year's R65 accelerated with the resolve of a consumptive 250 and proved as hard to warm up as your maiden aunt. Well, not to worry. The 1981 R65 is 0.3 seconds faster than even the '79 version, thought of as the "hot" R65.

Of course, that's not the end of it. You want to know if a 650 that's only as fast as a good-running GS450 is really worth it? Well, it is. Few bikes combine runabout and sportabout personalities as well. The R65's vast low-end power makes it flexible around town, yet it cruises effortlessly at 70 mph. Like the Virago, the R65 has the sort of performance that goes beyond displacement.

In fact, I think that BMW, like Rolls Royce, is entitled to give up the practice of quoting horsepower figures. Whenever the issue is raised, the word "adequate" should be the answer. *—Michael Jordan*

# BMW R65



## SPECIFICATIONS:

**Importer:** BMW of North America, Inc.
Walnut and Hudson Streets
Norwood, N.J. 07648

**CATEGORY:** street

**SUGGESTED RETAIL PRICE:** $3995

**ENGINE**

Type ..... four-stroke horizontally-opposed twin
Valve arrangement ..... pushrod-operated overhead valves
Bore and stroke ..... 82.0mm x 61.5mm
Displacement ..... 649.6cc
Compression ratio ..... 8.2:1
Carburetion ..... two 34mm Bing constant-velocity
Air filter ..... disposable paper
Lubrication ..... wet sump
Starting system ..... electric only
Ignition ..... transistorized breakerless, single coil
Charging system .. 12-volt; alternator, voltage regulator, rectifier

**DRIVETRAIN**

Primary drive ..... helical gears; 1.5:1 ratio
Clutch ..... dry, single-plate
Driveshaft-to-rear wheel ..... spiral bevel gears; 3.56:1 ratio

| Gear | Internal gear ratio | Overall gear ratio | MPH per 1000 RPM |
|---|---|---|---|
| I | 2.93 | 15.65 | 4.9 |
| II | 1.91 | 10.20 | 7.5 |
| III | 1.38 | 7.37 | 10.4 |
| IV | 1.11 | 5.93 | 12.9 |
| V | 1.00 | 5.34 | 14.4 |

**SUSPENSION/WHEEL TRAVEL**

Front ..... air spring, 36 mm stanchion tube diameter/6.4 in. (163 mm)
Rear ..... 3-way adjustable spring preload/4.3 in. (108 mm)

**BRAKES**

Front ..... dual single-action hydraulic calipers, 10.3-in. (260mm) discs
Rear ..... drum, single leading shoe, rod operated

**TIRES**

Front ..... 3.25 x 21 Metzeler Rille 12
Rear ..... 4.00 x 18 Metzeler Touring Special Block C66

**DIMENSIONS AND CAPACITIES**

Weight ..... 423 lbs. (192kg)
Weight distribution ..... 44.9% front, 55.1% rear
Gross vehicle weight rating (GVWR) ..... 878 lbs. (398 kg)
Wheelbase ..... 56.0 in. (1422mm)
Seat height ..... 31.3 in. (795mm)
Handlebar width ..... 27.3 in. (693mm)
Footpeg height ..... 12.1 in. (307mm)
Ground clearance ..... 5.3 in. (133mm), at center stand
Steering head angle ..... 28 degrees from vertical
Front wheel trail ..... 3.78 in. (96mm)
Frame ..... tubular mild steel, double front downtubes
Oil capacity ..... 2.6qt. (2.5/)
Fuel tank ..... steel, 5.8 gal. (21.8/) including 0.66 gal. (2.5/) reserve
Instrumentation ..... tachometer, speedometer, odometer, tripmeter resettable to zero

**PERFORMANCE**

Fuel consumption ..... 45 to 50 mpg (20 to 21 km/l)
Range, maximum ..... 261 to 290 miles (420 to 467 km)
Range, reserve only ..... 30 to 33 miles (48 to 53 km)
Speedometer error, 30 mph indicated ..... 30 mph actual
Speedometer error, 60 mph indicated ..... 61 mph actual
Best ¼-mile acceleration ... 14.158 sec., 92.11 mph (148 kph)
Top speed (calculated) ..... 110 mph (177 kph)
Stopping distance from 30 mph ..... 31 ft. (9 m)
Stopping distance from 60 mph ..... 133 ft. (41 m)

**WARRANTY:** one year unlimited mileage

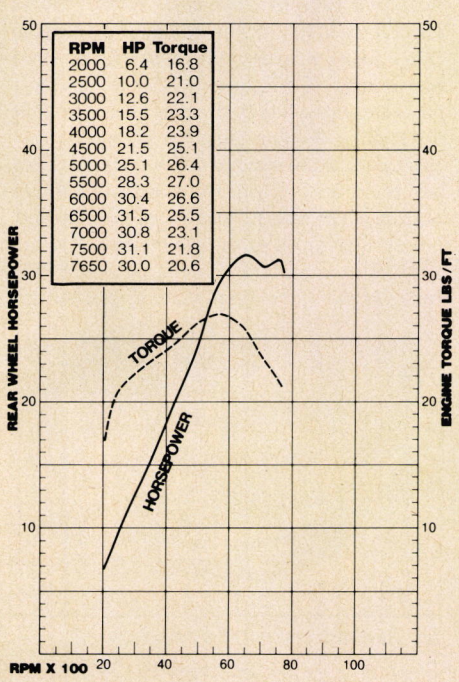
**AVAILABLE COLORS:**
Azure blue metallic/turquoise metallic/canyon red/black

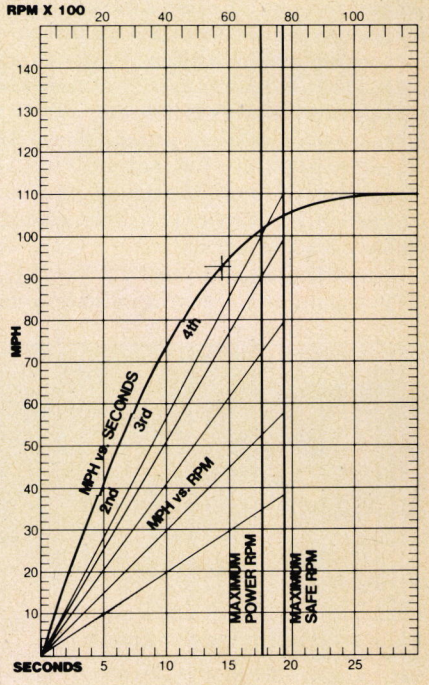
All weights and measurements are taken with machine unladen and fuel tank empty.

## COMPARATIVE TEST DATA:

| Make | Quarter-Mile, sec/mph | Top Speed, mph | Weight, lbs | Stopping Distance From 60mph, ft. |
|---|---|---|---|---|
| BMW R65 | 14.16/92.1 | 110 | 423 | 133 |
| Honda CX500 Custom | 14.12/92.9 | 102 | 468 | 146 |
| Honda CB650 Custom | 13.10/99.8 | 113 | 447 | 131 |
| Kawasaki KZ650 Custom | 13.16/100.2 | 116 | 483 | 125 |
| Suzuki GS450ST | 14.09/92.5 | 100 | 397 | 127 |
| Yamaha XJ650 | 13.19/102.4 | 125 | 476 | NA |

## PERFORMANCE:



## MINITEST:

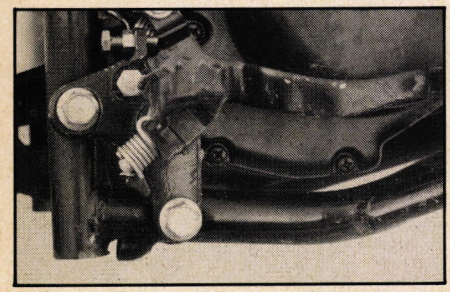
# Suzuki PE175X Enduro

*Evolution in the midst of revolution.*

• The kid on the 175 Kawasaki summed it up best: "Big deal. There isn't anything new here except the decals."

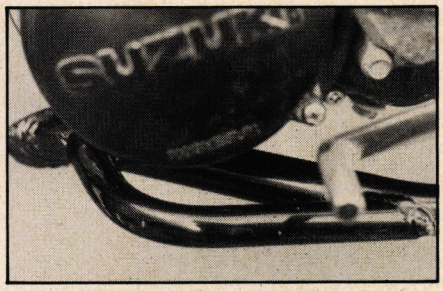
He was dead-wrong, of course, when he made that instant appraisal of Suzuki's newest 175cc enduro racer just after his KDX met our PE along the trail. The point is, though, that however erroneous his conclusion, it's easy to understand how he reached it. Because there's no denying that this year's PE175 really does look as though someone merely pasted different decals on last year's bike. But the truth is that no matter what it may *look* like, the new PE in fact incorporates a multitude of detail changes that render it a better motorcycle.

Considering that last year's PE wasn't exactly chopped liver, that's high marks for the new model. Besides, if he'd been a *really* sharp scrutineer, Kid KDX would have spotted other evidence of brand-new on the PE. He shouldn't have overlooked, for instance, that the traditional shovel-like skidplate has been abandoned in favor of "Six-Day Bars." That's ISDT-speak for a pair of small additional frame loops, one per side, beneath the outer engine cases. Their purpose is to protect those valuable engine bits from impact damage while forestalling the accumulation of mud (sometimes as much as eight or ten pounds of it) that can build up between the skidplate and the bottom of the motor. Removal of the plate did, however, bring about the need for a tiny ramp-like "mini-skidplate" on the bottom of the frame at each junction of lower frame rail and rear downtube. The ends of these tubes protrude down below each rail, and the ramps prevent them from getting hung up as the undercarriage is dragged across fat logs and big rocks.



**Miniature skidplate ramp on bottom rails**

*Stopping the dreaded downtube hangup.*



**Six-Day bars instead of a skidplate**

*So your cases are intact on the 7th.*

There are more visible, if not trivial, differences between the old and the new PE175—including a larger tool-bag platform on the rear fender (no bag is included), a more flexible front number-plate mount and a stronger muffler-to-frame attachment system—but the truly important new stuff is where you can't see it: in the 172cc case-reed two-stroke motor. Some riders, you see, complained last year that although the PE generally was fast enough to suit their tastes, it needed a pinch more low-end grunt and midrange response to enhance its woodsy flavor. So Suzuki seasoned the tuning recipe ever so slightly by lowering the exhaust port one millimeter, increasing the compression ratio from 7.6:1 to 7.9:1 and changing the size of the jet needle and pilot jet in the 34mm Mikuni carb.

Those few alterations are not as trifling as they might seem. They've allowed the new PE175 to maintain its 1980 level of peak engine performance, but the power curve now lives a bit lower in the rpm range. So even at 223 pounds dry, this 175cc enduro bike can all but run wheel-to-wheel with some full-blown 250cc motocrossers, just as it could last year. But now it also can lug up a steep hill in first gear at surprisingly low rpm, usually without the aid of any deliberate clutch slippage, and that's something it often *couldn't* do last year. There's still a trace of abruptness when the engine revs up into the lower limits of the powerband, especially in the first couple of gears, but that transition is noticeably smoother than on the '80-model PE175.

Complementing the engine's reflavored power delivery are a few small-but-significant refinements that should extend its longevity. For one, the reinforcing ribs on the underside of the cast-aluminum piston are bigger, which improves the piston's heat-dissipating properties and increases its strength as well. Too, both of the PE's piston rings are thicker this year (up from 2.2mm to 2.6mm) to discourage ring flutter at high rpm. That's no small deal, either, when you consider that this six-speed, competition-oriented motor probably will spend the greater part of its useful half-life hovering at or near maximum revs. And if you add to those improvements things like an upgraded ignition coil and better sound-deadening material inside the expansion chamber, you begin to understand what the kid on the Kawasaki didn't—that there really *is* a lot new about the PE175.

A few reliability-enhancing refinements even have found their way onto the PE's MX-style, RM-inspired chassis. The frame itself is largely the same as before and so is its geometry, but the steering head now is a welded-together assembly that's much stronger than the one-piece seamless head used previously. There's also a beefier fork stop, a stronger alloy material in the front wheel rim, improved spoke nipples at both wheels and a longer-lasting, non-adjustable nylon rubbing block in the caliper-type chain guide. Suzuki also borrowed a trick

from the Europeans (and, in recent years, Honda) by switching to two-piece handlebar-lever brackets on the PE. The advantage is that if you fall and break a lever in an enduro (and if you're carrying a spare, of course), you lose less time by being able to remove the bracket in two pieces instead of first taking off the handgrip as you must with one-piece brackets.

In the end, though, what counts is how the chassis works, not how it's made, and Suzuki has little to worry about in that regard. The PE175 offers a wide range of handling competence that runs from an ability to carve through tight woods with the finesse of a surgeon, to a high degree of stability at sixth-gear speeds on rough trails. And the all-Kayaba suspension (air-spring front; dual unreservoired gas shocks in the rear) is just firm enough to resist excessive bottoming during spirited trail races, and yet plush enough that you won't finish a day-long ride feeling as though you just went 15 rounds with a boxing kangaroo.

Come to think of it, probably the only thing that Suzuki *does* have to worry about with this bike is the KDX175, the very motorcycle Kid Kawasaki was sitting atop when he passed judgement on the PE. Because in virtually every way—save for simplicity of wheel detachment, lack of rear-brake chatter and, to some small extent, the ability to slalom through the tight stuff—the KDX is marginally better. Which is not to imply that the PE is less than good or isn't worthy of consideration; to the contrary, it's an unusually *fine* enduro machine that, in all probability, would never make anyone regret having bought it. Unless, that is, he were one of those demanding, discriminating competition riders who always *must* have the very best motorcycle available at any given time.

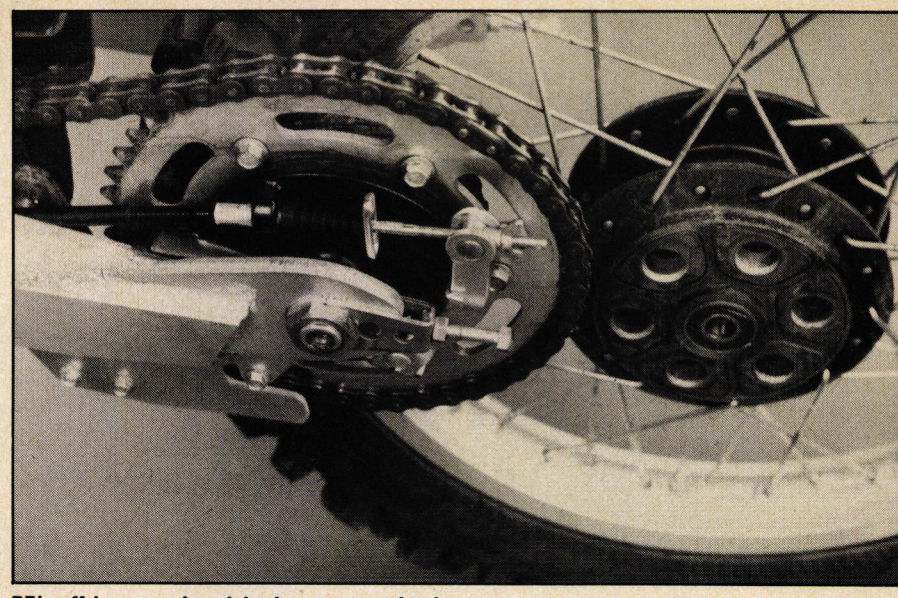
In that case, it's a pity that the PE175 had to come along when it did, that it must occupy the same time-frame as the 175 Kawasaki. Because if there were no such thing as a KDX, the PE would be, by far, the absolute class-act in the 175cc enduro-bike category. Granted, it's not supernatural like the KDX175; it's merely great.

—*Paul Dean*

## SUZUKI PE175

**Importer:** U.S. Suzuki Motor Corp.
13767 Freeway Drive
Santa Fe Springs, California 90670

| | |
|---|---|
| Category | enduro |
| Suggested retail price | $1479 |
| Engine type | two-stroke vertical single |
| Port arrangement | one piston-controlled intake, one reed-valve-controlled intake, six main transfers, one exhaust |
| Bore and stroke | 62.0mm x 57.0mm |
| Displacement | 172.1cc |
| Carburetion | one 34mm Mikuni slide/needle |
| Gearbox | 6-speed |
| Front fork/wheel travel | air-spring, 36mm stanchion tube diameter/7.8 in. (198mm) |
| Rear shocks/wheel travel | 3-way adjustable spring preload/8.6 in. (217mm) |
| Wheelbase | 56.0 to 57.0 in. (1422 to 1448mm) |
| Seat height | 36.2 in. (919mm) |
| Weight | 223 lbs. (101 kg) |
| Top speed (observed) | 71 mph (114 kph) |
| Warranty | none |
| Available colors | yellow |



**PE's off-in-seconds quick-change rear wheel**

*High-speed tire-changing tricks brought to you directly from the ISDT team.*

# INVEST IN GOLD. AND BLACK.

You don't have to be an accountant to appreciate the net worth of the blackest, goldest, meanest motorcycle ever made.

The brand-new, limited edition Midnight Maxim.

**WHEN YOU BUILD THEM LIKE THIS, YOU DON'T BUILD THAT MANY.**

Like our other two after-dark models, the XS Eleven and XS850 Midnight Specials, the Midnight Maxim is essentially a bike built by hand.

Hand welded.
Hand painted.

*Rear view mirror(s) standard equipment.*
*Always wear a helmet and eye protection.*
**Source: Cycle Guide.*

Hand polished and buffed.

And where we don't use our hands, we use our heads. Creating production techniques never used before, for results never possible before.

That unique black Krinkle finish on the engine, for instance. And the brilliant sheen of those black chrome tailpipes.

The gold paint that graces the cast alloy wheels and disc plate is even more durable than anodizing. And the gold-plating process we developed not only looks like the 24k stuff, but is made to stay that way.

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But the few we do build, you can be sure, are magnificent.

## BEAUTY AND THE BEAST.

Beneath a Midnight Maxim's extraordinary styling is an extraordinary motorcycle.

Capable of covering a quarter mile in 12.6 seconds,* the Maxim is a 650 with firepower of a 750. And more than a few 850's.

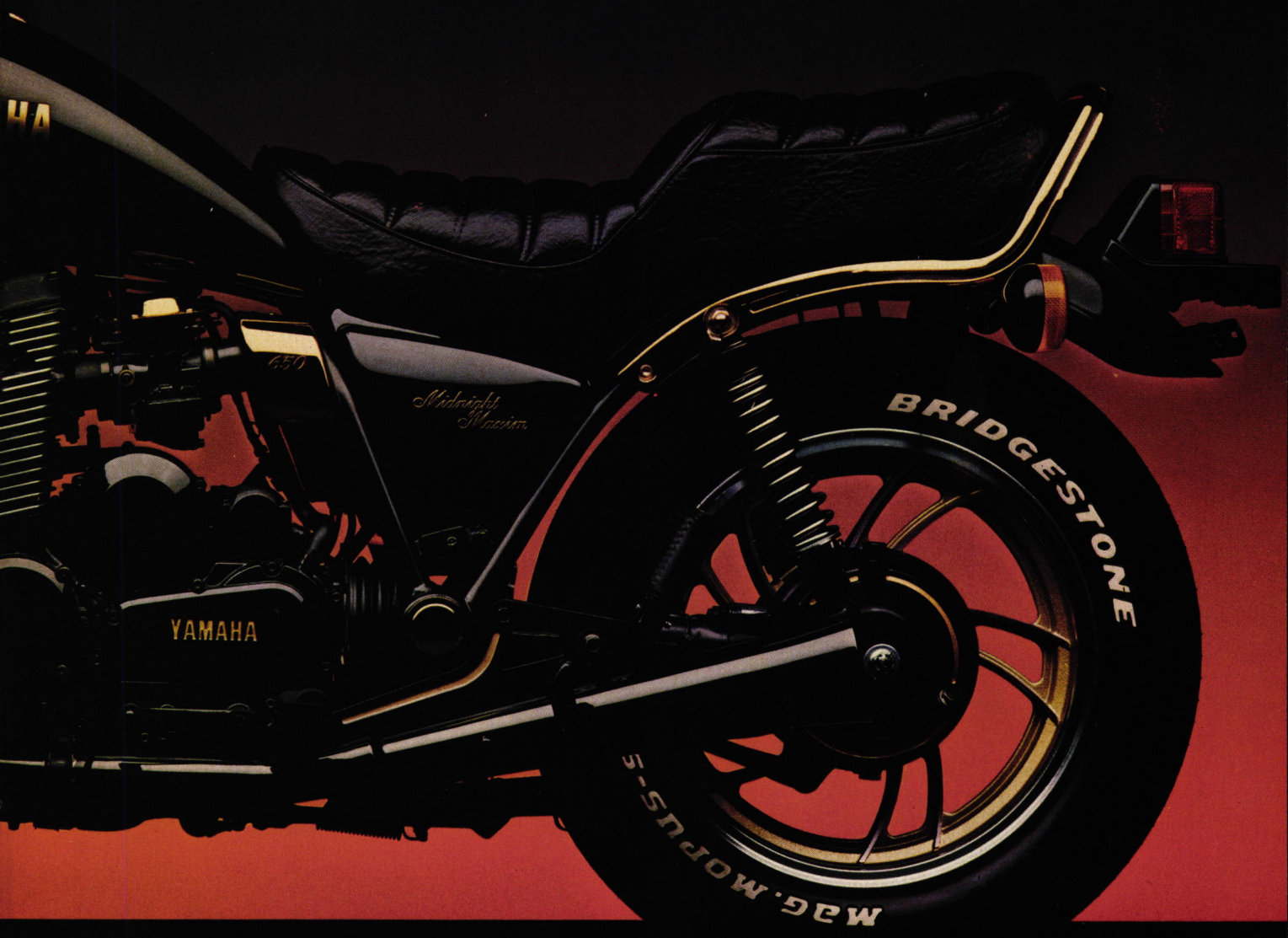
Its light weight and unusual leanness give it the stability and handling of the nimblest canyon cat. While a dependable shaft drive delivers its awesome power to the rear wheel with smooth efficiency.

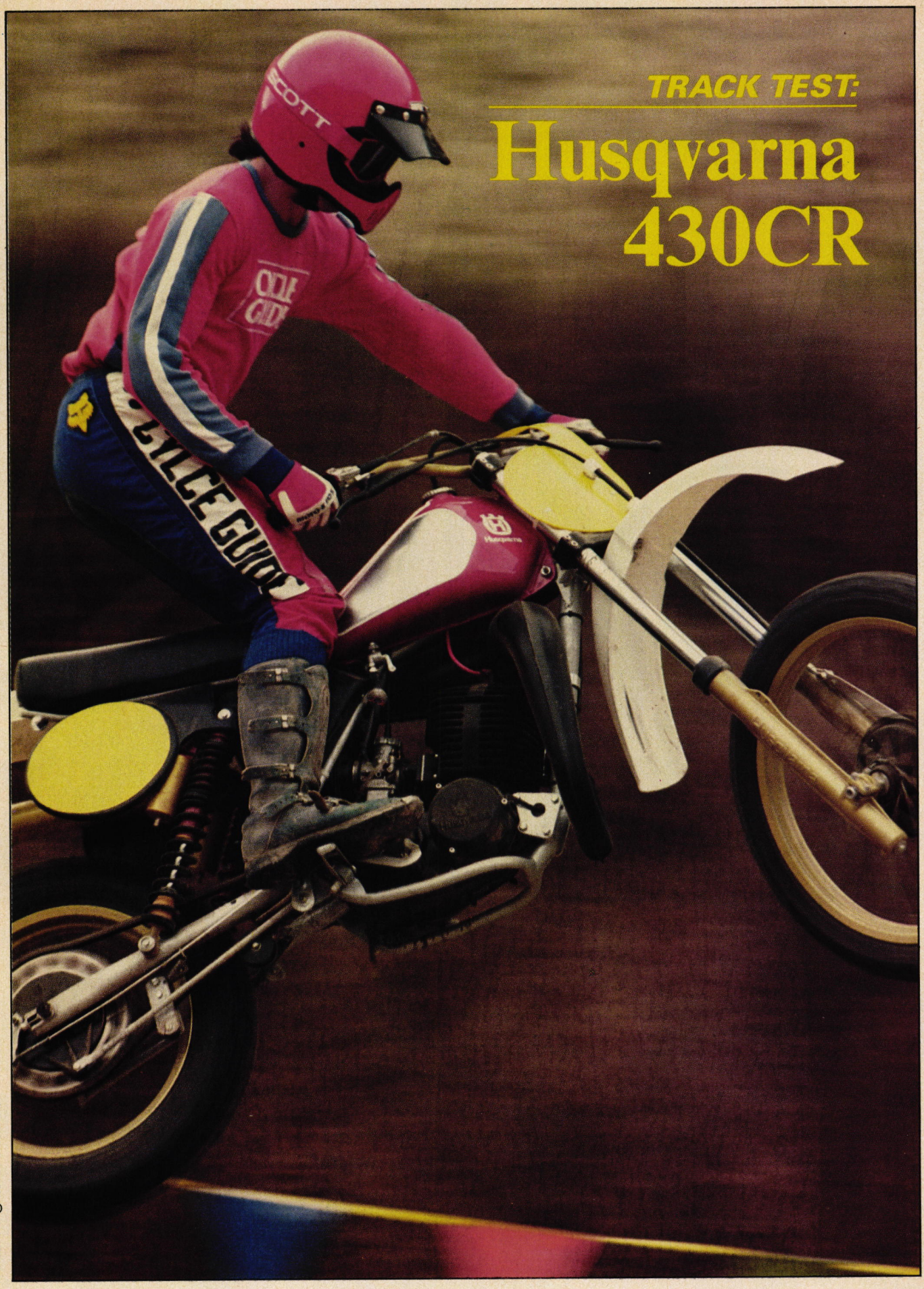
Painstakingly crafted. Exotically different. Few in number.

As precious metals go, the Midnight Maxim is a very wise place to put your money.

**YAMAHA**

THE WAY IT SHOULD BE.™






## TRACK TEST:

# Husqvarna 430CR

PHOTOGRAPHY © 1981 DAVID DEWHURST

Everyone who's anyone has known it for years: Husqvarnas are trick motocrossers in a lot of important ways, but on the relatively smooth, relatively fast tracks that are prevalent in America, they don't win many races. And for good reason. They've traditionally had motors that deliver tractability at the expense of acceleration, steering that offers stability at the expense of maneuverability and undersized forks that give superior shock absorption but with all the rigidity of two leading-axle bungie cords.

That, of course, was up until this moment. Because if the 430 CR, Husky's latest Open-class hot rod, is any indication, things are looking up for the Swedes in 1981. Strangely enough, though, the basic Husky formula has remained virtually the same as it was last year, with only a few pieces of the engineering puzzle having been rearranged. Nonetheless, the 430 CR has been exorcised of all the bad-rap demons that plagued its predecessor, the 390 CR, making it a force to be reckoned with in the Open class.

You'll find a perfect example of that newfound competence in the 430's steering characteristics. Last year, you see, Huskys were the longest motocrossers in captivity (wearing a 60-inch wheelbase). And that, combined with uncommonly slow steering geometry (around six inches of trail) made them track as steadily as a Greyhound bus and, unfortunately, caused them to turn like one, too. But with a few simple, inconspicuous refinements—such as moving the seating position forward, improving the suspension behavior and strengthening the front fork—the 430 turns as well as any Open-classer we've tested. The wheelbase is still stretched-out, the steering geometry is still absurdly slow, but the damn thing turns crisply, willingly and accurately anyway.

Quite frankly, that beef-up of the front fork was long overdue. The front travel on Huskys had escalated right up to almost a full foot, yet the fork tubes remained a spindly 35mm in diameter and the upper triple clamp used only one pinch bolt per tube. For '81, though, the tubes are a fat 40mm and both clamps now pinch with two bolts per side. Capped off with new four-bolt axle clamps and ribbed slider legs, the Husky-built fork is at last *truly* husky, permitting virtually no side-to-side flex. The front wheel now obeys the orders given it by the handlebar rather than wandering around aimlessly as it often did before.

Refinements to the fork aren't, however, just limited to improved rigidity. The fatter tubes yield a 65-percent increase in oil capacity that results in more-consistent damping, and a redesign of the orifice system inside has increased the progression of the damping rates. In fact, thanks to those changes and new brass bushings in the slider legs, the damping is now so effective that the dual-rate springs used previously have been deemed unnecessary and replaced by straight-wind coils.

Consequently, the much-heralded, silky smooth action of the Husky fork is better than ever. Its progressive absorption soaks up choppy little bumps as though they were merely painted on the track surface, and the big thumps that normally jar a rider's fillings loose are cushioned in a luxurious manner that no other production fork can match.

*No horsepower champ, but this bike can handle it.*

BY DAVID DEWHURST

Progressiveness is the keyword at the rear, too, where 12mm-longer Ohlins shocks with piggyback reservoirs have superseded last year's remote-reservoir units. That extra shock length was needed to move the lower shock mounts forward and downward, resulting in what Husky feels is the optimum progressive-rate rear suspension using the current basic frame layout. But since Husqvarna's engineers don't believe in "banana" swingarms (a straight piece of metal is stronger than a bent piece of metal, they claim), they simply accommodated the added shock length without raising the chassis by simply putting the lower mounts outboard of the arm. That makes the 430 look strangely knock-kneed from the rear, what with the upper shock mounts being closer than the lowers; but the use of Heim-type joints at the mounting points allows sufficient articulation to prevent any binding.

Peculiar-looking or not, the rear end of the 430 flat *works*, and does it well enough to prove that in spite of stiffening competition from the single-shockers, Husqvarna is still at the leading edge of suspension technology. Indeed, the closest thing to the Husky in terms of rear-suspension quality is Honda's Pro-Link; but mostly because Ohlins shocks are unquestionably the finest suspension units in existence right now, the Husky still has a better suspension. That's why, regardless of the size or shape of bump it encounters, the 430's rear suspension just swallows it up with unprecedented ease.

Surely, all of this suspension refinement has contributed to the 430's more civilized steering manners, for no other reason than the fact that the wheels stay on the ground more effectively. But probably the single largest contribution to the bike's improved steerability was the forward relocation of the seating position. Actually, most motocrossers over the past few years have had very short seat-to-steering-head relationships, designed to place more of the rider's weight on the front wheel in the turns—except for Husqvarnas. But anyone who's ever spent much time around Huskys doesn't need a tape measure to differentiate the old from the new, either in looks or feel. The front edge of the seat is several inches closer to the steering head, forcing Husky's traditional long, loaf-of-bread gas tank to go away in favor of a shorter, new-style high-rise tank. But more important, the moved-up seat puts added pressure on the front wheel in the turns. And that jams the 3.00x21 Pirelli Pentacross tire into the track with more authority, the obvious result being better turning characteristics.

Therefore, the new Husky is much more versatile in the turns than the old one, for it's able to square the berms or rim-ride around them or even skid controllably around flat, bermless corners, all with near-equal proficiency. And better yet, you have the option of quickening the steering even more just in case your particular racetracks are punctuated with numerous tight-radius turns. You exercise that option by removing a small travel-limiting spacer from inside each Ohlins shock and then turning up the preload a notch or two. That allows the rear of the bike to sit more than a half-inch higher, thereby steepening the steering-head angle by half a degree or so and shortening the trail by around a quarter of an inch. In that state, the 430 will steer at least as nimbly as any Open-class bike on the market and quicker than most.

What's even more amazing is that none of this geometry-juggling or steering-reformation seems to adversely affect the CR's

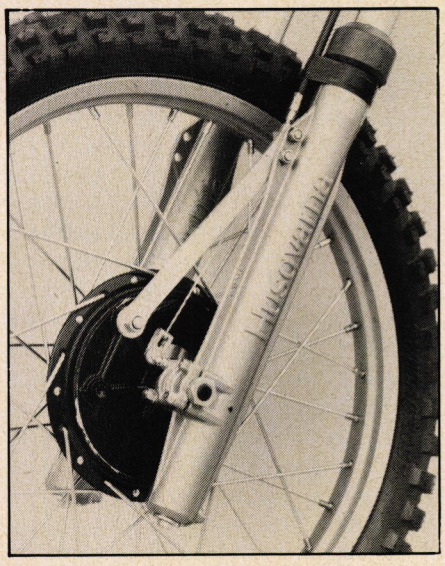
*Continued*

remarkable stability. It still can bound over the most absolutely *horrendous* terrain with almost embarrassing ease, making you wonder why you thought that part of the track was so rough in the first place. The bike tracks straight ahead with deadly accuracy, and only rarely does the rear end ever kick up enough to tap your fanny. When you get right down to it, there's only one reasonable explanation if you do an endo on this bike: You took the wrong line. Because if you can't go fast through the rough on a CR, no one can.

That kind of forgiveness is the hallmark of Husqvarnas these days, and it extends to the on-track behavior of the engine, too. But with 45 added cubic centimeters to work with this year, the Open-class CR now can count competitive acceleration in its bag of tricks as well as its usual easy-to-live-with power delivery. Granted, the 430cc engine isn't going to out-horse the latest crop of near-500cc monstermotors on the superfast tracks, but at least it won't get completely smoked the way the 390 CR did. And on the really cobby, undulating circuits, the Husky's fast-but-friendly motor could prove to be the difference.

Don't, however, dismiss the 430 as simply an overbored 390, for it's different in more areas than it is similar. The crankcases, for instance, look identical to last year's at first glance, but among other things they incorporate an integral rear motor-mount/swingarm pivot that lends rigidity to the chassis. The barrel and head also look the same as always, but they both are smaller, lighter and, according to Husky's tech people, run cooler than before. The same 38mm Mikuni carb and eight-petal reed valve feed the intake, but once inside, the fuel is greeted by a number of new pieces—nothing dramatically different, mind you, just a careful reshuffling of traditional Husky elements.

A good example is the 430's full-circle crank. That design was formerly used until 1976 before being replaced by a semi-circle "pork chop" crank. But the return to the heavier crank allows the 430 to retain almost as much flywheel inertia as the 390 without the troublesome external ignition flywheel that continually worked loose on the end of the crank. In its place is an internal-rotor Motoplat solid-state CDI.



**Bigger fork with the same plush ride**

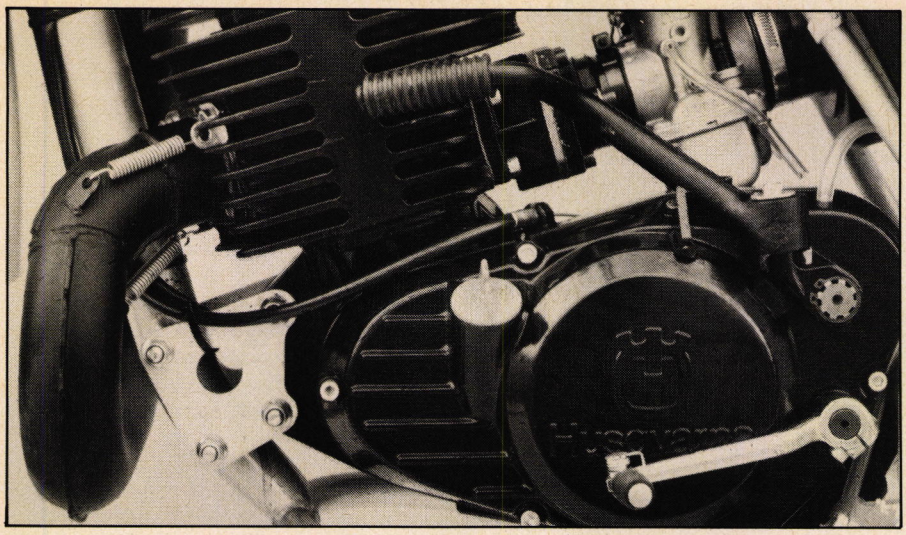
*Rigid solution to a flexible problem.*

Husky didn't want to completely upset the tuning balance it had carefully developed over the years, though, so the displacement was upped by increasing both the bore and the stroke the same amount, 3mm. Everything else inside the barrel, including the porting, is the same as on the 390. Only the displacement increase, along with a reshaped and rerouted exhaust pipe, accounts for the 430's boost in power and torque.

Back in the gearbox area you can find many more new goodies, including a primary kickstart system. Yep, that's right, you can now start a Husky in gear. Not only that, there's a brand-new shift linkage that actually shortens the traditional long throw of the shift lever down to where it only moves about as much as on a Japanese motocrosser. And all of this newfangled trickery is embellished with other evolutionary hardware such as a folding shift lever, three new and identical shifting forks, and an improved heat-treat specification for all of the transmission gears.

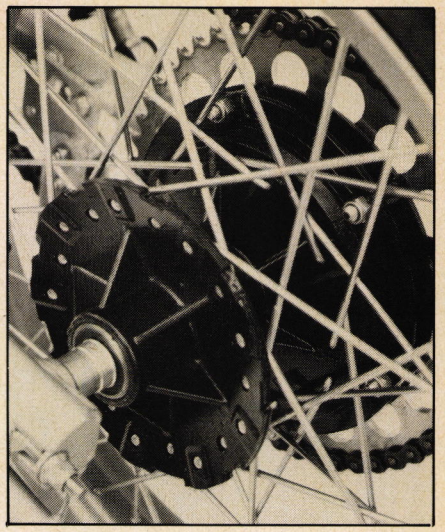
By most motocross standards these are minor changes, but they're a Big Deal as far as Husky is concerned. And so is the acquisition of more horsepower for 1981, even if much of the competition has a *lot* more. But motocross isn't always a horsepower race, and Husqvarna figures that for most riders on most rough tracks, the 430 has the *right* power. We won't argue. The motor seldom seems responsible for getting the bike all out of shape, regardless of how aggressively you ride. Coming out of turns you can dump the throttle wide open and, with the able assistance of the 5.00x17 Pentacross rear tire, the 430 hooks up magnificently, with little wheelspin and no fishtailing. So while the monsterbikers are carefully dialing in the right amount of power to remain upright on even slightly tricky turns, you can just grab a handful on the Husky and be long-gone.

In the final analysis, though, the 430's engine, just like its world-class chassis, has to be classified as an endurer rather than a sprinter. It's not a Saturday-night special particularly suited to six-lap dashes on a man-made semi-TT track. But a 40-minute moto on bone-crushing natural terrain is a different matter. The Husky's forceful yet predictable power is a genuine asset under those circumstances, especially when it's delivered through such a brilliant chassis. So whatever the 430 gives away during the first 10 yards on the smooth start straight it will more than make up during the last 10 bumpy laps of the race.



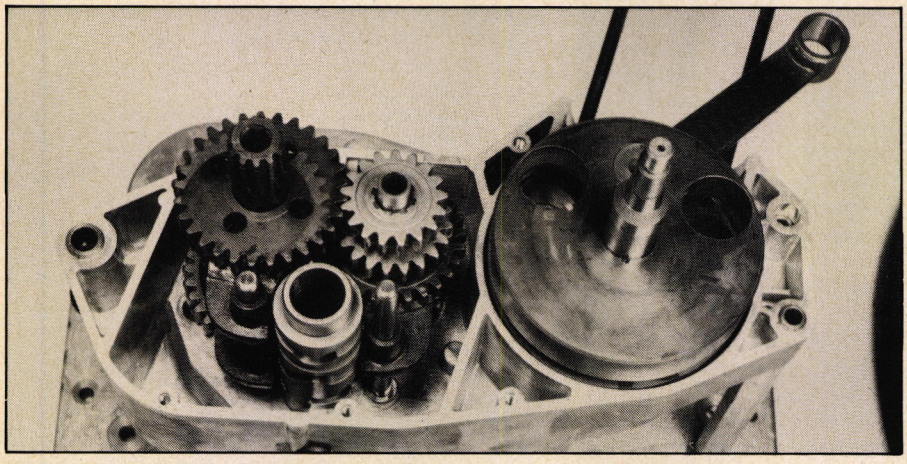
**Reshaped kickstart and plastic retainer**

*A good idea while the plastic lasts.*



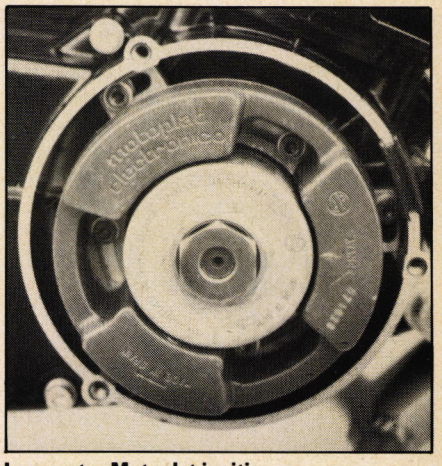
**Stronger rear hub and spokes**

*Stopping breakage but not the bike.*



**New crank, selectors and cases**

*Husky crank design comes full circle.*



**Inner rotor Motoplat ignition**

*A big spark from a tiny flywheel.*

# Charting the Changes

**Engine:** New crankcases have an integral engine mount and swingarm pivot. The crank is Husky's first full-circle design since 1976. Bore and stroke are increased 3mm to 86mm x 74mm. Barrel and head are both lighter and claimed to run cooler. Ignition is by an inner rotor CDI similar to that used on the Automatic model. A new clutch without cush drive allows primary kick-starting. Three identical shifter forks move identical gears with a new heat treatment. Smaller shifter drum gives a more positive engagement with a shorter lever throw.

**Suspension:** Piggyback Ohlins are 21mm longer than old remote reservoir units. Bottom shock mount is lower and outside the swingarm for a more progressive wheel rate. Fork stanchion tube diameter increased from 35mm to 40mm. Oil capacity also increased by 65 percent. Larger damper rod provides more progressive damping. Old dual rate spring is replaced by a new single rate one. Brass bushing in sliders reduces stiction. Larger twin-bolt triple clamps and four-bolt axle clamps increase rigidity.

**Tires:** Pirelli Pentacross models replace Trelleborg.

**Wheels:** New rear hub is stronger and uses the same length spokes on either side of the wheel. These stronger spokes are laced with the rim centralized over the hub. Both front and rear backing plates give a more watertight seal. The rear plate has a larger bearing area. The front hub uses wider brake shoes.

**Details:** Tank is shorter, narrower and taller than before. Seat is longer and shallower. Exhaust is rerouted and designed for more torque. Silencer has steel core in place of aluminum one. Shift lever has a folding end. Improved cables can be changed easier. Magura lever clamps are now two-piece. Brake torque arm bushings now come with O-rings.

**A new twist for piggyback Ohlins**

*Making the world's best even better.*

*Continued*

All of which goes to show that there really is no mathematical formula for success in the design of motocross machinery. Nor will combining the very best parts always result in the very best motorcycle. Because if your formula is just a hair off, or if you don't get all of those high-falutin' pieces bolted together in just the right order, you usually end up with something that is much less than the sum of its parts and, worse yet, less than a winning race bike. The improvements in performance between the 390 and the 430 graphically illustrate that point. Because in essence they both are very much alike, but on the track they're entirely different. One's a winner and the other is not. And you now know which is which. •

# Motocross After The Revolution

• Husqvarna's 430CR is a brilliant motorcycle with few flaws. Yet many of its predecessors were not so lucky. Even worse, the flaws in previous Huskys should have been corrected long ago. The technology for curing leaky gas caps and flexible forks has long existed, but these and other problems went uncorrected until now.

The reasons for the failure to make these changes were largely financial. As a result, Husqvarna's development process was based upon an entirely different rationale compared to the Japanese firms. Understanding the differences between these rationales is very important. It explains why Japanese and European motocross bikes have evolved so differently.

The European approach to development has traditionally been one of slow but sure progress, dictated mainly by financial considerations. Each small company, like Husqvarna and Maico, relied upon the profit shown by its model line for its very existence. Radical designs are essentially out of the question because development would be so costly it would eat up the meager profits produced by the small run of production bikes.

There are advantages to this approach, though. Relatively slow production of fundamentally hand-built bikes allows constant updating of machines as new ideas are perfected—a stronger engine mount here, a different tire there. Yet these evolutionary changes can be made only when all the old parts have been expended. Small motorcycle companies cannot afford to scrap their investment in old parts just because something better comes along. That is why all those leaky Husky gas caps were pressed into service until the last one was used. The same was also true of the narrow brake shoes fitted to the latest wide hubs. In the same way, a stronger fork could not be used when the flaws in the old one were revealed. Husqvarna could not afford to either abandon the old fork or develop a new one. Furthermore, Husqvarna has to charge a reasonable price for their bikes since the company has to survive from the profits.

The Japanese manufacturers realized early that motocross bikes were not economically viable on the grand scale they are used to dealing with, especially considering the constant changes in technology. They understood that it is very difficult to make money from what are essentially race bikes. Nevertheless, these manufacturers believed motocross bikes were a good advertising tool that could be subsidized by more profitable street machines for the greater glory of the company.

Even so, Japanese motocross bikes were not particularly good in the early days because their engineers had little experience in the field. And because a year's production run took only a matter of weeks, there was no time to incorporate evolutionary changes as the engineers learned more. The bike would be designed, parts ordered and then assembled in a couple of weeks. As a result, the Japanese adopted the revolutionary approach to development. New ideas would be accumulated throughout the year to be incorporated on a brand-new model. Furthermore, since profit was not the main motivation, the designs could be extremely adventurous. Thus the Japanese manufacturers bootstrapped themselves up the development ladder, accelerating the pace of motocross progress until production bikes now resemble works bikes.

It is no wonder that Husqvarna was gradually outdistanced in the motocross wars. Its future seemed to be bleak. But now Husqvarna has received additional backing from its parent company, Electrolux, a giant electrical concern. Electrolux is willing to bankroll Husqvarna for the same image-making reasons as the Japanese companies. It is this extra cash that enabled Husqvarna to make the major changes this year that might otherwise have taken more years of evolution. Husqvarna will also have a higher profile in racing and advertising in 1981, thanks to Electrolux.

The Husqvarna 430CR proves that European motocross technology is still the equal of Japan's. More important, Electrolux's commitment means Husqvarna can afford to indulge in the same revolutionary approach to development as the Japanese. Considering the enormous experience of the Husqvarna engineers, Huskys could change in more ways than ever before in the near future, carrying motocross technology to new heights, and riders to new speeds.

*—David Dewhurst*

# Ride Review

• The 430 CR is right in the thick of the Open-class hunt, and don't let anyone tell you different. But do let me offer my opinion of what, more than anything else, makes it that way: the suspension.

That only makes perfect sense. You can't say that the motor makes the 430 competitive, because it's not all that fast. The fact is that the Ohlins rear end helps compensate for the lack of sheer power by augmenting the engine's inherent tractability. You can't applaud the precise steering, either, without commending the suspension, for its effectiveness in keeping the wheels on the ground also sharpens the Husky's ability to change direction. Nor can you single out the 430's world-class handling or unwavering stability or low-effort operation as the prime reason for its competence. Because without the works-quality suspension, none of those wondrous aspects would be so wonderful.

I guess what I'm trying to say is that if you took the fork and shocks off of the Husky and somehow evaluated the remains, you'd find it only slightly above-average. But the one thing that can make an ordinary motocrosser extraordinary is a great suspension. And the 430 doesn't have just *a* great suspension; it has *the* great suspension of our time. *—Paul Dean*

• It never fails. No sooner do I herald a breakthrough in motocross engineering (the Honda CR450R) than another equally stunning bike like the Husky 430CR comes along. And then I have to explain myself.

For me, the Husky succeeds precisely in the same way the Honda does: It hooks up coming out of a corner. And when you can get all that power to the ground as you exit a turn, your speed down the following straight is going to be greater than your rival's. For me, the ability to hook up separates a winning bike from a losing one. And here both CRs are equal.

Yet for my less than pro-level abilities, exit speed has something of an abstract quality to it. My first worry is getting a big Open-class bike lined up for the straight *before* I pull the trigger. The Honda did the job for me here because it can be flicked around like a 250. Yet the Husky feels even better. Its front wheel sticks to the line, and the bike is so obedient I have only to turn the bars and the bike changes direction—clearly, a little work with tires and weight distribution has gone a long way. In fact, it's the Husky's predictability at the entrance of a turn that makes it my choice over the Honda. I can rely upon it to get me in position for the launch down the straights without any arm-wrestling along the way.

*—Michael Jordan*

*Continued*

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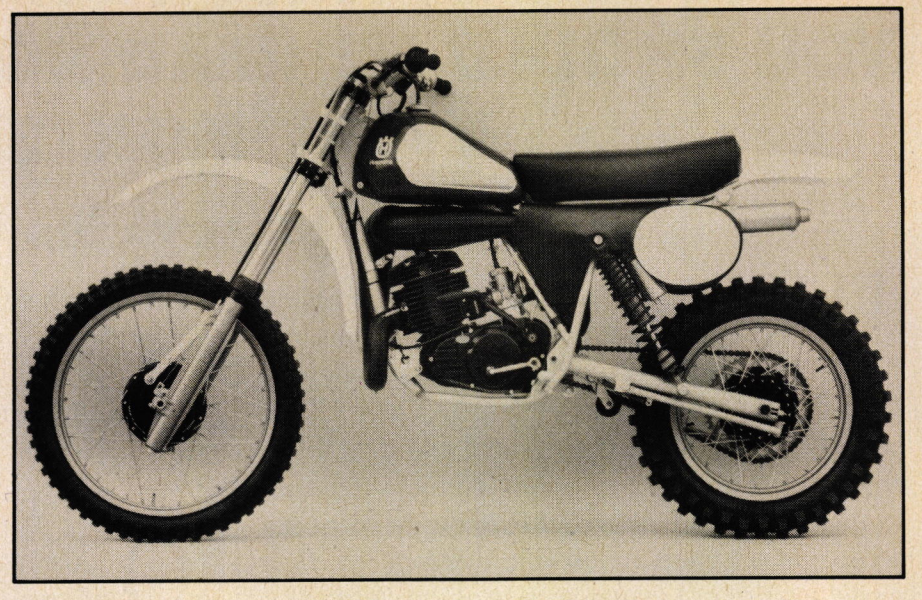
The occasional magazines are still in the rack. You're holding the one that we know delivers the goods every month.

**CYCLE GUIDE**

**HARD RIDERS WITH THE RIGHT LINES.**

# Husqvarna 430CR



## SPECIFICATIONS:

**Distributor:** Husqvarna Motor Corp.
4935 Mercury Street
San Diego, Calif. 92111

**CATEGORY:** motocross

**SUGGESTED RETAIL PRICE:** $2685

**ENGINE**
Type ..... two-stroke vertical single
Valve arrangement .....one reed-valve-controlled intake, four transfers, one booster transfer, one exhaust
Bore and stroke ..... 86.0mm x 74.0mm
Displacement ..... 429.8cc
Compression ratio (uncorrected) ..... 11:1
Carburetion..... one 38mm Mikuni slide/needle
Air filter ..... washable oiled foam element
Lubrication ..... pre-mixed fuel and oil
Starting system ..... primary kick
Ignition..... flywheel magneto CDI
Charging system ..... none

**DRIVETRAIN**
Primary drive ..... straight cut
Primary drive ratio ..... 1.79:1
Clutch ..... wet, multi-plate
Final drive ..... # 530 chain (⅝-in. pitch, ¼-in. width); 4.417:1(12/53)

| Gear | Internal gear ratio | Overall gear ratio | MPH per 1000 RPM |
|---|---|---|---|
| I | 2.36 | 18.64 | 4.0 |
| II | 1.71 | 13.49 | 5.5 |
| III | 1.30 | 10.28 | 7.3 |
| IV | 1.04 | 8.25 | 9.0 |
| V | 0.88 | 6.96 | 10.7 |
| VI | 0.78 | 6.15 | 12.1 |

**SUSPENSION/WHEEL TRAVEL, IN.**
Front air-spring, .....40mm stanchion tube diameter/11.9 in. (302mm)
Rear .....8-way adjustable spring preload 11.3 in. (286mm)

**BRAKES**
Front.....drum, single-leading shoe
Rear.....drum, single-leading shoe, rod-operated

**TIRES**
Front..... 3.00 x 21 Pirelli Pentacross MT25E
Rear.....5.00 x 17 Pirelli Pentacross MT25

**DIMENSIONS AND CAPACITIES**
Weight.....239 lbs. (108kg)
Weight distribution .....46.5% front, 53.5% rear
Wheelbase ..... 58.5 to 59.2 in. (1486 to 1504mm)
Seat height ..... 38.1 in. (968mm)
Handlebar width ..... 34.0 in. (864mm)
Footpeg height ..... 13.8 in. (351mm)
Ground clearance ..... 12.5 in. (318mm), at engine cradle
Steering head angle ..... 30.5 degrees from vertical
Front wheel trail..... 6.0 in. (152mm)
Frame .....chromoly steel, single front downtube
Fuel tank .....steel, 2.0 gal. (7.6/)
Instrumentation .....none

**PERFORMANCE**
Top speed (calculated) ..... 96 mph (156 kph)

**WARRANTY:** 30 day motor and frame

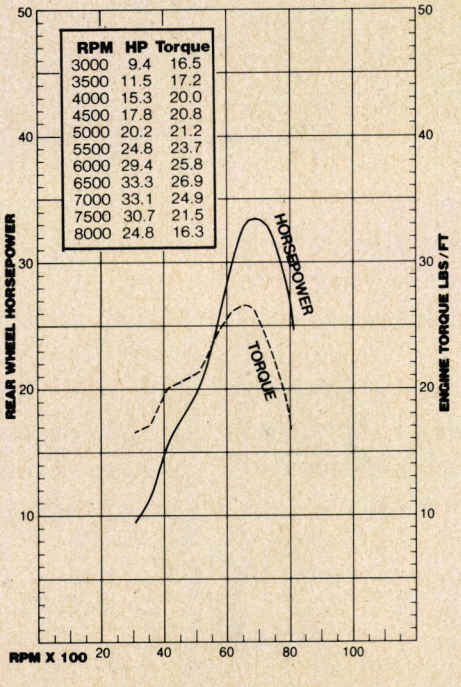
**AVAILABLE COLORS:** red

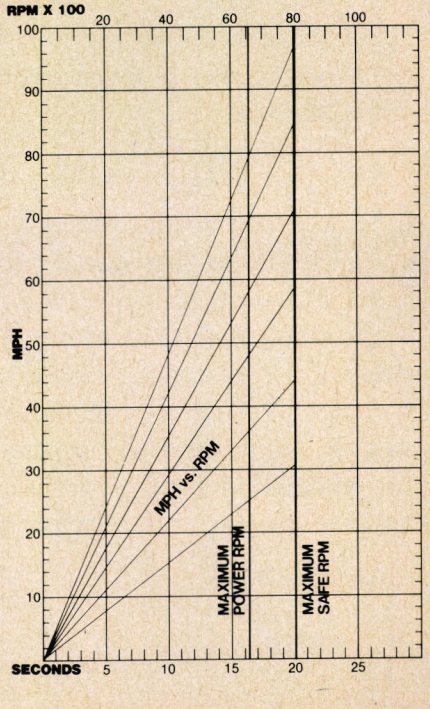
**All weights and measurements are taken with machine unladen and fuel tank empty.**

## COMPARATIVE TEST DATA:

| Make & Model | Horsepower | Wheel Travel Front/Rear, in. | Weight (fuel tank empty), lb. | Weight bias Front/Rear percent | Transmission, number of speeds |
|---|---|---|---|---|---|
| Husqvarna 430CR | 33.3 | 11.9/11.3 | 239 | 46.5/53.5 | 6 |
| Honda CR450R | NA | 11.0/12.5 | 236 | 47.3/52.7 | 4 |
| Yamaha YZ465 | 39.4 | 11.2/11.8 | 228 | 46.5/53.5 | 5 |
| Kawasaki KX420 | 34.0 | 11.0/11.3 | 250 | 46.4/53.6 | 5 |
| Maico 450M1 | 37.0 | 12.3/12.0 | 236 | 46.6/53.4 | 5 |
| Can-Am MX-6 | 38.3 | 11.5/10.8 | 233 | 45.5/54.5 | 5 |

## PERFORMANCE:



# Tuck and go.

Are you a back-roads scratcher?
If so, tuck in behind the quarter-fairing of our new GS-450S.
And go scratch the sweepers and switchbacks!
This sweet-handling little cafe is powered by a gas-stingy 4-stroke Twin. So while you're eating up the twisties, it won't eat up your wallet.
Its price is as low as its handlebars, too. Yet it's loaded with high standards. Like: Sport mirrors, transistorized ignition, gear position indicator, 6-speed gearbox, mag wheels, 5-way adjustable shocks and front disc brake with a rear-mounted caliper.
Besides all that, there's this: A 12-month unlimited mileage warranty.*
So you see, while we made a bike that really cuts corners, we didn't cut corners making the bike.

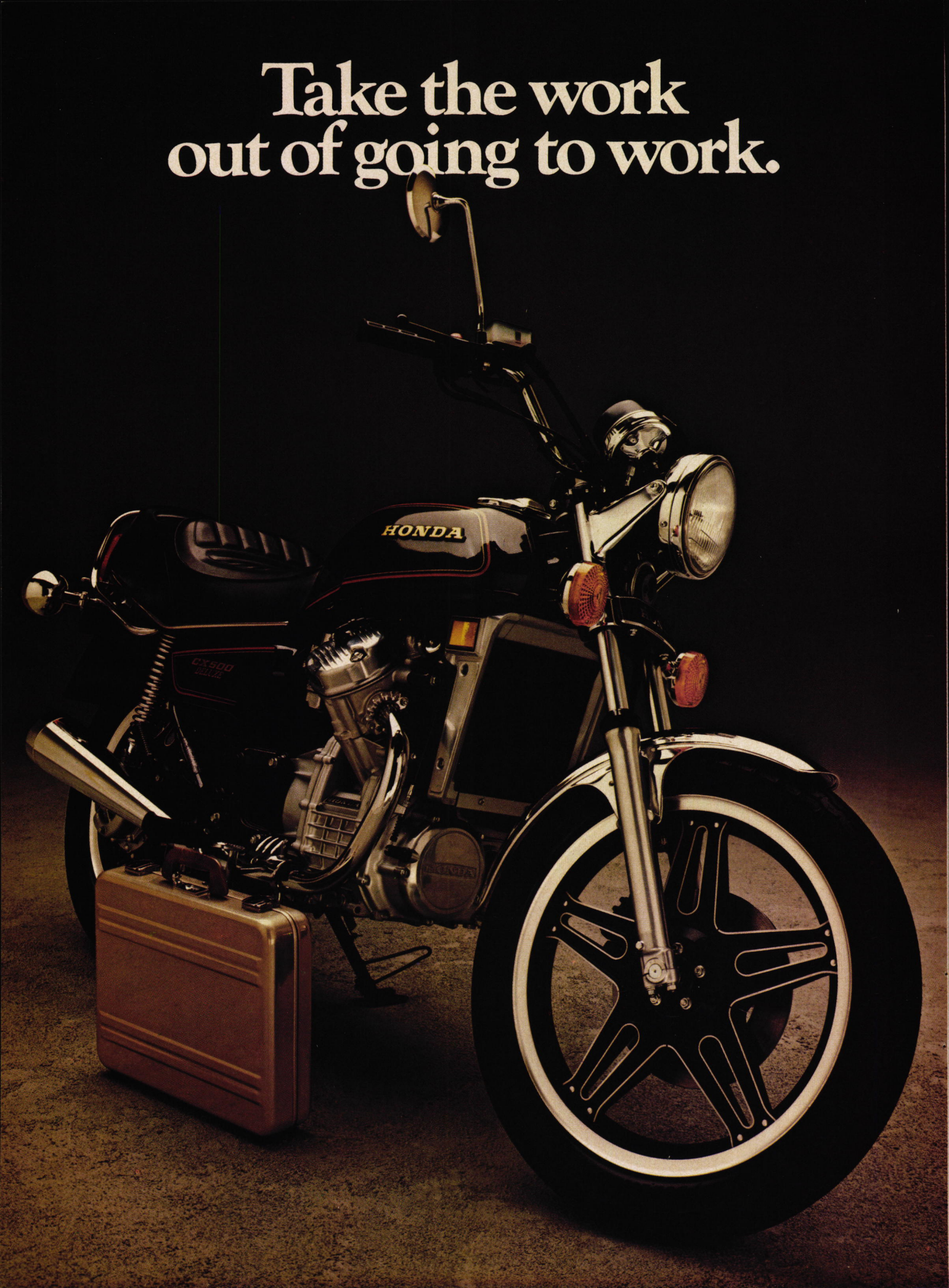
## 12-Month Unlimited Mileage Warranty

*Offered only in the 48 contiguous United States and Alaska. Refer to U.S. Suzuki "GS Model Limited Warranty Policy" at Suzuki dealerships. A similar warranty is offered in Canada.

## Suzuki 1981 SUZUKI® The Performer.

Member Motorcycle Safety Foundation. Ride safely. Always wear a helmet, eye protection and appropriate riding apparel.

# Take the work out of going to work.



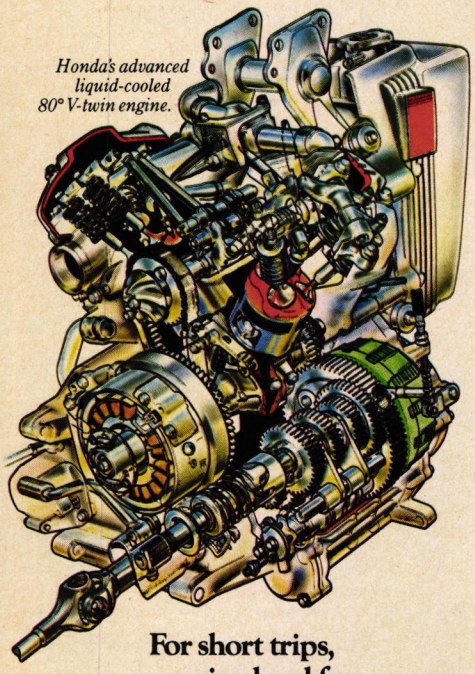
Hardly anybody likes going to work.

But maybe it's not the work that's the problem.

Maybe it's the going.

Maybe you've had enough of sitting in traffic listening to gas and oil prices go up. Maybe your commute has become more of a job than your job. Maybe your routine has become entirely too routine.

And maybe, just maybe, it's time you took a good, long, serious look at the 1981 Honda CX500 Deluxe.



*Honda's advanced liquid-cooled 80° V-twin engine.*

## For short trips, an engine bred for long trips.

Trouble with most commuter bikes is that they're just that, commuter bikes. Designed to get you to work and back. Period.

Not the CX500 Deluxe.

The CX500 Deluxe was designed to go cross country as easily as across town.

Its engine is the advanced 80° V-twin which also powers Honda's Silver Wing™ touring bikes. Liquid-cooled for quiet operation, and more consistent operating temperatures. So even if you do get caught in an occasional traffic jam, you at least won't have to worry about overheating.

This exclusive Honda design features four valves per cylinder, rather than the usual two. For better, more efficient combustion. It is fired by Tri-Pulser™ capacitor discharge ignition which is virtually maintenance-free. And fed by two 34 mm constant velocity carburetors. With an accelerator pump for smooth throttle response.

But one of the best things about the engine isn't in the engine at all. It is how that engine is mounted. Transversely.

So there is only one change in the direction of powerflow from the engine, back through the shaft drive to the rear wheel. And the fewer changes there are, the less power is lost.

## What good is riding to work if you're too tired to work when you get there?

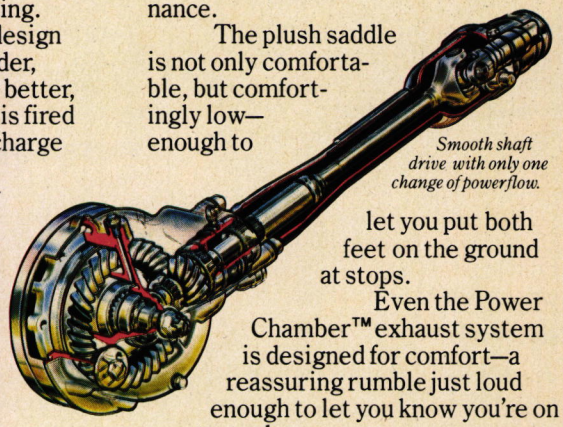
If you're going to ride a motorcycle every day, it had better be comfortable.

Which is exactly what the CX500 Deluxe was designed to be. So comfortable you may begin to wish your commute were longer so you could spend more time on the bike and less on the job.

The front forks have two Syntallic™ bushings in each leg to cut friction and ensure smooth movement. And, to help custom tailor the ride to your preference, they're air-adjustable through one simple air equalizer fitting.

In the rear, Variable Hydraulic Damping shocks help take the bump out of the daily grind.

And in between, shaft drive for smoothness, quiet and low maintenance.



*Smooth shaft drive with only one change of powerflow.*

The plush saddle is not only comfortable, but comfortingly low—enough to let you put both feet on the ground at stops.

Even the Power Chamber™ exhaust system is designed for comfort—a reassuring rumble just loud enough to let you know you're on a motorcycle.

And the whole package cruises on tubeless tires mounted on Com-Star™ wheels which are as easy on your eye as the ride is on the rest of you.

## What to do when you don't go to work.

If you think riding the CX500 Deluxe is a joy on the way to work, wait till you see what it can do with a weekend.

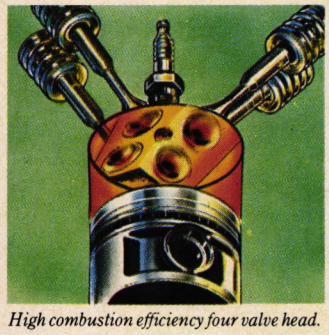
It can take two of you on a cruise around town or out of town. It can make places you've seen hundreds of times before seem brand new.

And if, like a lot of people, you choose to add some of the many available touring options, the CX500 Deluxe will take you as far as you have time to go.

In comfort. And style.

But since there are only two weekend days for every five work days, there is one alternative you may want to consider when you take delivery on your CX500 Deluxe.

Moving farther away from work.



*High combustion efficiency four valve head.*

# HONDA

**FOLLOW THE LEADER**

ALWAYS WEAR A HELMET AND EYE PROTECTION. Specifications and availability subject to change without notice.

© 1981 American Honda Motor Co., Inc. For a free brochure, see your Honda dealer.

Or write: American Honda Motor Co., Inc. Dept. 546, Box 9000, Van Nuys, California 91409.

# AERO dynamic!

The AERO by Pacifico sets a new standard for fairings in the '80s. More protection. Less bulk. And higher efficiency.

Using the latest computer technology and extensive air flow research, Pacifico combined the comfort and convenience of large touring fairings with the performance of sport fairings. The result: The dynamic new AERO.

Just 29 inches wide and 18 pounds light, it frame mounts on commuters to the biggest pavement wrinklers.

## Air control.

The AERO is designed to control the air. Not fight it. Exclusive vacuum relief vents direct a layer of air up the inside surface of the windshield neutralizing drag and back draft common to most fairings.

So rain or shine, you'll feel nothing but enjoyment.

## Versatility.

The cockpit of the AERO has everything you need. Twin locking pockets with plenty of storage space. In-dash headlamp adjustment. Room for auxiliary gauges like a clock or cigarette lighter. And Pacifico's optional in-dash stereo sound system with waterproof speakers and concealed antenna. You can also get lowers, sport bubble and a rectangular headlight kit.

AERO by Pacifico. Efficiency, protection and versatility at a price you'll like.

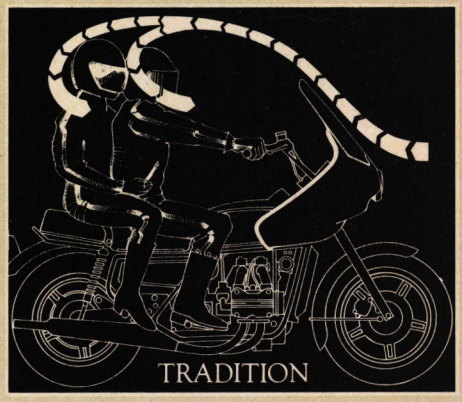
See it at your local Pacifico dealer, today.

PACIFICO

**PACIFICO, INC.**

1625 S.E. Hogan Rd. Gresham, Or. 97030

Shown with optional lowers and rectangular headlight kit.



Sound system and lighter optional.

Cycle Guide's

# SPECIAL EDITION

## FAIRING BUYER'S GUIDE

- Touring Fairings
- Transparent Windscreens
- Café Fairings

*A definitive guide to wind cheaters...*

© 1981 VV HSU

**FAIRINGS** are good for one thing only: motorcycles. Put a nosepiece on your motorcycle and it becomes apparent that wind pressure doesn't pound hard against your chest when you ride, and suddenly you've got mini-acreage to plant gadgets such as radios, tape decks, CBs, speakers, gauges, cigarette lighters and the like. The truth is, fairings aren't only functional pieces of equipment for your bike, they add personality to it, too.

Even so, many riders still think of fairings strictly as touring gear. Back in the early days most fairings were, indeed, designed for little more than easing long-distance rides. The molded billboard in front of the bike was there to break up the air, rain and foul-riding conditions before they struck the rider. That still holds true, but as motorcycling rolls into the Eighties, fairings have added another dimension to motorcycle design. Stylists have studied fairing design and produced some sporty and creative windslammers.

There are three main types of fairings: handlebar-mount, transparent windscreens and frame-mount. And this, CYCLE GUIDE's third fairing buyer's guide, breaks down the available fairings into these three categories.

The similarities in construction between the handlebar-mount and frame-mount fairings are obvious, since both types rely on a formed body section to support a windscreen. Generally, both types are constructed of handlaid or compressed fiberglass, ABS acrylic plastic or rotationally-molded polyethylene. Windscreen-type fairings are normally made of plexiglass or molded transparent acrylic. Knowing what material the fairing you select is made of is important. For instance, fiberglass is relatively easy to repair, while fixing an ABS or polyethylene fairing is beyond the skills of most riders. On the other hand, ABS fairings are normally lighter in weight than similar fiberglass fairings.

By using a widening variety of materials, fairing manufacturers have been able to be more creative in styling. There was a time when almost all fairings looked like they'd been built in the same mold. But thanks to some innovative styling, the days of faired clones rolling down the highway are gone.

In the past, handlebar fairings were associated more with café riding than with serious long-haul touring. To a degree, this is still true, since many handlebar-mount quarter fairings have sleek lines that do more for looks than for rider comfort. But as you thumb through the handlebar-mount section of this buyer's guide, you'll notice that many of them have aerodynamic shapes so the rider doesn't get slapped by headwinds as much as if there were no fairing on the bike at all.

Despite all the changes made to handlebar-mount fairings, the biggest improvements in fairing development belong to the windscreen fairing. Until recently, most windscreens looked like they came from appliance stores. They mounted solidly to the handlebar and fork and did the job of protecting the rider, but did it with little or no personality. And most of them discolored from clear to yellow, or had spider cracks from too much stress because of poorly designed mounting hardware. Little knowledge was displayed in creating stylish, long-lasting windscreens. That is, until space technology made a two-point landing into the motorcycle aftermarket. Many of the windscreens listed in this buyer's guide are now constructed of plastics adopted from the aerospace industry. Thanks to materials such as *Lexan*, there are windscreens that shield you from the elements and don't yellow. By using vacuum-formed acrylics, the manufacturers have been able to create wind-cheaters that score highly in the styling game.

Further, the mounting methods have been improved. Some manufacturers are now using break-away stanchion brackets, so that in the event of a crash the rider doesn't rebound off of a stubborn piece of plexiglass. Others have discovered ways of attaching the stanchion brackets to the windshield without having to drill holes for screws and hardware, so the surface area isn't weakened by excavation.

While the handlebar-mount and transparent fairings have rocketed into the Eighties, the largely unchanged lines of the frame-mount might convince you that frame-mounted fairings are lumbering about like touring dinosaurs, ever so slowly finding innovation by chance, not by choice. Wrong.

Sure, these big fiberglass barn doors still resemble fairings of five or more years ago, but in reality, there's only so much a draftsman can do with the lines. Function dictates the basic shape. Just remember, they are intended to function as wind-cheaters. Even if they look cumbersome to you now, after conquering miles and miles of Eisenhower's Interstates, you'll care less how the fiberglass (or ABS plastic or rotationally-molded polyethylene) in front of you looks. What really matters is how it works.

Of most concern will be its wind penetration. Most tourers want the fairing to route the cold air away from them while they ride, yet not do it in a way that causes the bike to handle poorly. You'll note that many manufacturers have cleaned up the edges on their touring fairings, using integral turnsignal/running lights and more aerodynamic windscreens as two methods of cheating the wind. Others have incorporated adjustable windscreens so you can plan the angle of attack yourself. Other aerodynamic options include streamlined mirrors, enclosed headlights and fairing lowers. The lowers serve to block some of the wind from slapping the rider's legs, as well as adding attractive styling to the bike.

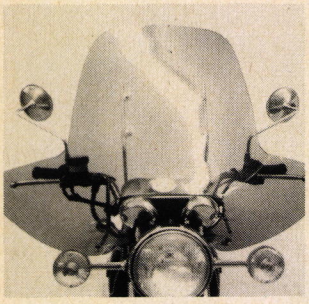
While the frame-mount stylists have continued to add their subtle touches, the functional department guys haven't sat idle, either. In fact, some of the gadgetry for fairings rivals an F-111 instrument cluster. You want a radio? They've got radios. Tape decks, CBs, gauges, cigarette lighters and even swivel cup holders fit into the dashboard system of most frame-mount touring fairings. While some manufacturers have provisions for clocks and small gauges, almost all provide dual storage compartments at either side of the instrument cluster to hold small items such as gloves, sunglasses and other touring take-alongs. These compartments often are available with lockable lids.

The list of options and extras for fairings—especially touring fairings—is practically endless. Selecting just the right fairing for your bike is only limited by the thickness of your wallet. But in addition to price you have to consider installation. Many handlebar and transparent windscreens have universal-fit bracketry, while most frame-mount touring fairings come with brackets made specifically for certain models. You need to know if the fairing will fit before you buy it. And part of that fit is the headlight shape—with the recent trend toward rectangular headlights, many fairings are available with squared headlamp parts.

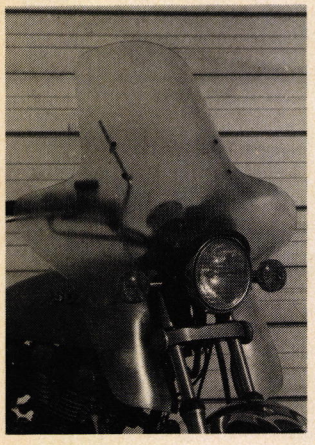
To aid in the selection of your fairing, we have compiled this buyer's guide—our third fairing shopper in the past three years. Included are photos of the fairings, along with the manufacturers' addresses and phone numbers. Where available, prices are also included. Following this basic information is a short description of each fairing and its options. Now for the hard part—selecting the fairing that's right for *your* motorcycle and *your* riding needs. With the information at hand and careful evaluation, you should fare well.

## TRANSPARENT FAIRINGS

**CF, Inc.**
**869 Pierce Butler Route**
**St. Paul, MN 55104**
**(612) 489-8053**
**Price: $79.95**
The all-clear **SS-20 Sport** fairing offers sporty styling as well as wind protection. Made of acrylic plastic, the SS-20 is also available in smoke-tint ($84.95), and has mounting hardware included. The SS-20 has an optional square headlight model, too.

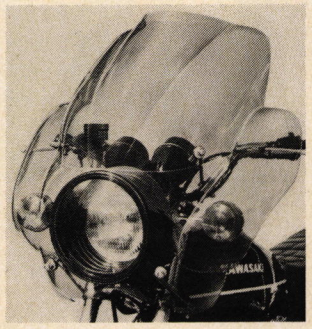


**Chaparral**
**Star Route, Box 992**
**Lytle Creek, CA 92358**
**(714) 889-2761**
**Price: N/A**
The wide-screen **Fairing-Style** from Chaparral comes in clear or smoke-tint. It comes with mounting hardware, and fits most motorcycles.

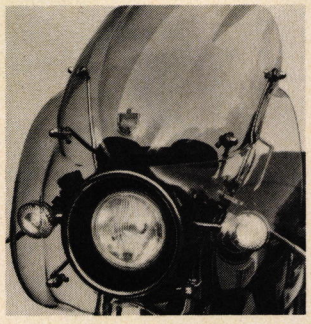


**Chaparral Cont'd**
**Price: $69.95**
The **Deluxe** is similar to Chaparral's Fairing-Style Windscreen, but adds more rider protection with a longer lower section. The Deluxe comes in clear only, and has round and rectangular headlight holes to fit most touring-size motorcycles.

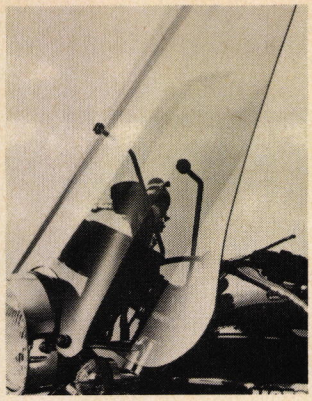
**Arthur Fulmer**
**P.O. Box 177**
**Memphis, TN 38101**
**(901) 525-5711**
**Price: $52.95 to 61.95**
The **Fulclear Fairing** weighs 5¼ pounds, and comes with installation bracketry. Available in clear or bronze, with optional lowers.



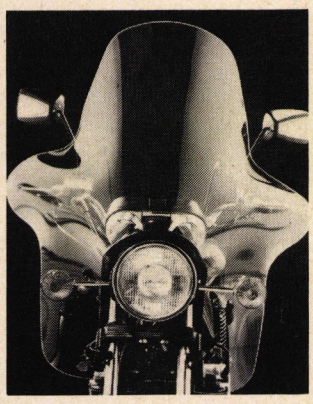
**Hugon Fairing and Distributing Company**
**27 Loring Road**
**Weston, MS 02193**
**(617) 891-5294**
**Price: $259.00 to 279.00**
The **Lexan GT** is made in France and is constructed of quarter-inch **Lexan** impact-resistant plastic. Hugon guarantees the material against breakage for one year. The smoke-finish windscreen weighs 14 pounds and has a six-point Universal mounting system that can be switched from one bike to another. Included in the hardware is a trim bead on the outer edge, and an adjustable rubber boot around the headlight. The Lexan GT will mount to a motorcycle using stock handlebars and turnsignals. There's an optional deflective windscreen to mount to the top.



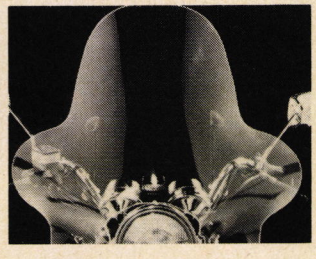
**Hugon Fairing and Distributing Company Cont'd**
**Price: $259.00 to 279.00**
The **Hugon Sport** is styled like the Lexan GT, but is cut lower at the sides and is intended for motorcycles with low-style cafe handlebars. The smoked screen is guaranteed for one year, and has the same six-point Universal mount as the GT.



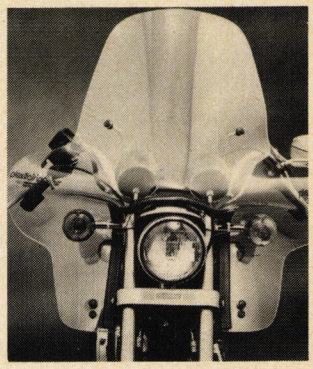
**National Cycle, Inc.**
**136 South Eighth Avenue**
**Maywood, IL 60153**
**(312) 343-0400**
**Price: $54.95**
The **Plexishield** is made from Plexiglass acrylic, and measures 27" x 29". Features include a four-point rubber mounting system and breakaway fasteners. All hardware is coated in low-sheen black plastic to minimize glare. The clear Plexiglass shield is DOT-approved; optional Solar Grey tint is available. A catalog is available for the entire National Cycle line.



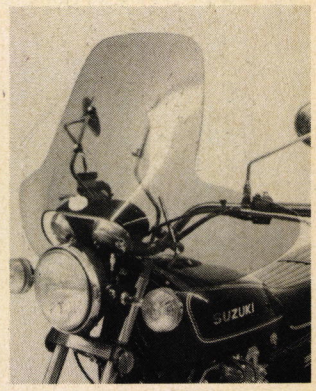
**National Cycle, Inc. Cont'd**
**Price: $109.95 to 114.95**
National Cycle constructs its **Plexifairing II** of 3/16-inch Plexiglass. It has the same mounting features as the Plexistar, with additional rider protection provided by the extensions below the headlight. The fairing is sealed at the bottom by a flexible foam gasket. The Plexifairing II is available with either a round or rectangular headlight opening. Colors are clear or tinted. National Cycle offers the Plexifairing II LX, identical to the Plexifairing II, but constructed of G.E. **Lexan** MR40T4, a material claimed to be resistant to scratching. The Plexifairing II LX sells for $174.95 (clear) to $182.95 (tint).



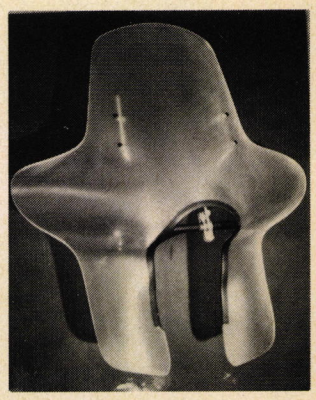
**National Cycle, Inc. Cont'd**
**Price: $79.95 to $85.95**
The **Plexistar** is constructed from Plexiglass and features National Cycle's ball-ended upright mounts. This patented mounting feature requires that no holes be drilled in the 30½" x 32" shield. Available in clear or tint, and either round or rectangular headlight.



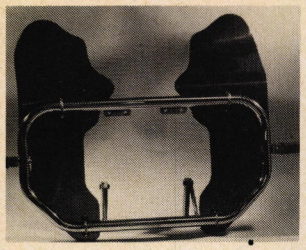
**National Cycle, Inc. Cont'd**
**Price: $109.95**
The **N851 Plexifairing** is designed especially for Harley-Davidsons, and fits the Sportster (1965 to 1980) and Super Glide (1971 to 1980). The N851 is constructed of 3/16-inch Plexiglass and measures 31½" x 35".



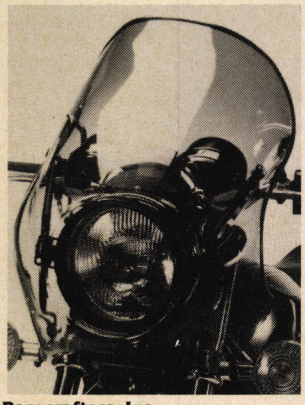
**Ocelot Engineering Products, Inc.**
**895 West Mill Street**
**San Bernardino, CA 92410**
**(714) 884-0484**
**Price: $59.95 to 69.95**
Ocelot's **Windscreen** is available in four models: clear or smoke-tint, and with or without snap vents for warm-weather ventilation. The Windscreen comes with mounting hardware to fit most motorcycles.



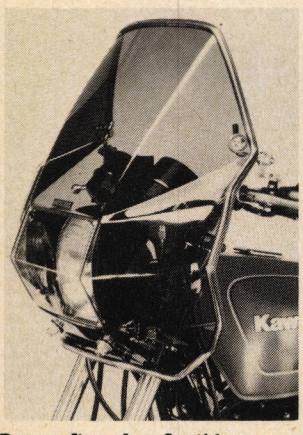
**Ocelot Engineering Products, Inc. Cont'd**
**Price: $99.95**
The **Ocelot** windshield is available in clear only, and has both round and rectangular headlight openings. The extended lowers give added protection from the wind. Mounting hardware is included to fit most motorcyles.



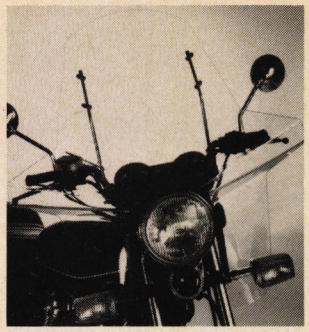
**Positive Shields**
**P.O. Box 176**
**Merric, NY 11566**
**(516) 378-1145**
**Price: $84.95 to 89.98**
**Positive Shields** mount to the lower portion of the frame with six "U" bolts, and offer additional weather protection for the lower extremities. Made of plexiglass, Positive Shields measure 10" x 32", and are available in clear or tint. Specify make and model of motorcycle when ordering.



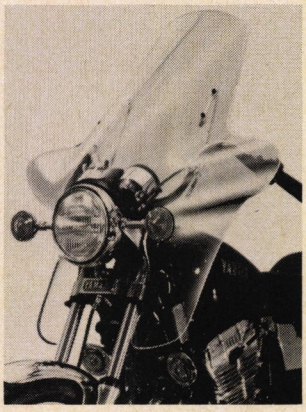
**Racecrafters, Inc.**
**7801 Canoga Avenue**
**Canoga Park, CA 91304**
**(213) 999-2811**
**Price: N/A**
As a one-piece smoked windscreen, the **Transparent Cafe** comes in two sizes; you must specify the make and model of your motorcycle when ordering. A rubber headlight molding is included so the fairing fits snugly. Two tubular brackets are used to mount the Transparent Cafe, and some modifications may be required to accommodate the fairing to stock turnsignals.



**Racecrafters, Inc. Cont'd**
**Price: N/A**
Racecrafter's **See-Thru** is made of molded, tinted plexiglass. A chrome bead trims the edge, and a black headlight shell is provided. The mounting bracketry includes chrome-plated 10mm steel rods allowing the fairing to be positioned around most handlebars.



**Scott USA**
**P.O. Box 1478**
**Freeport Center**
**Clearfield, UT 84016**
**(801) 773-2121**
**Price: $119.95**
**Scott USA**'s street fairing is made of acrylic plastic, and is molded to fit around the handlebar grips of most motorcycles. Comes with mounting hardware.

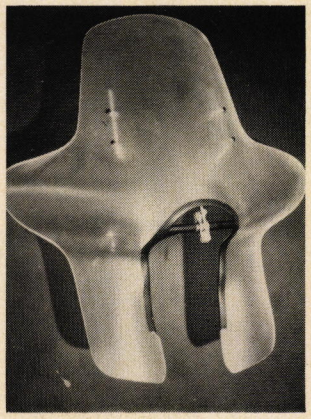


**Silhouette Fairings**
**P.O. Box 1672**
**Martinsville, IN 46151**
**(317) 342-2300**
**Price: $99.95 to 109.95**
The **Silhouette**, unlike most clear windscreens, is cushion-mounted to the bike, utilizing a special collar gasket which locates the shield around the headlight and triple clamp. Molded from 3/16-inch acrylic, the Silhouette is available in clear or tint, and weighs nine pounds.

**Slipstreamer, Inc.**
**835 W. 69th Street**
**Eden Prairie, MN 55344**
**(612) 941-9000**
**Price: $79.95**
The **Slipstreamer II** has a transparent windscreen 3/16-inch Lucite which is also available in optional smoke-tint ($84.95). The Slipstreamer II weighs eight pounds and has a four-point bracket-mount to handlebar and headlight.

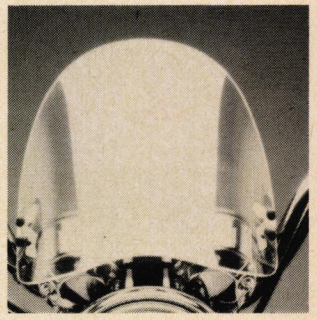
**Slipstreamer, Inc. Cont'd**
**Price: $89.95**
The **Enterprise**, big brother to the Slipstreamer II, extends below the headlight for additional rider protection. A smoke-tint screen is optional for $99.95. Both models have chrome mounting bracketry included.

**Torque Products**
**895 West Mill Street**
**San Bernardino, CA 92410**
**(714) 884-0484**
**Price: $59.95 to 69.95**
The Torque **Fairing-Style** windshield measures 38¾" wide and 27" high. All mounting hardware is included to adapt to most motorcycles (except Harley Davidsons). The Fairing-Style windshield comes in clear or smoke-tint ($64.95). Snap vents are optional for an additional five dollars.

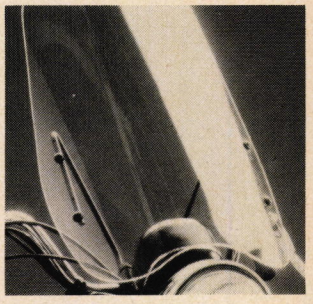


**Torque Products Cont'd**
**Price: $99.95**
The integral legs on the **Torque** windscreen offer thigh protection from the wind. Mounting hardware to fit most motorcycles is included with this clear shield. Round and rectangular headlight openings are available.

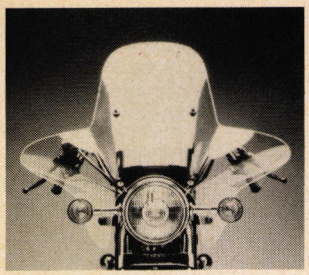
**Don Vesco Products, Inc.**
**7565 North Avenue**
**Lemon Grove, CA 92045**
**(714) 465-8256**
**Price: $79.95**
The **Cruiser** is intended for Specials, Customs, LTDs and L-model motorcycles. The upright position enables you to sit comfortably without fighting pressure from the wind. Made of blown acrylic, the Cruiser features Don Vesco's exclusive ball-joint three-point mounting system, which helps isolate vibration and provides easy installation.



**Yamaha Parts Distributors, Inc.**
**6555 Katella Avenue**
**Cypress, CA 90630**
**(714) 761-7300**
**Price: $34.95**
The **Mini Cruiser** is intended to add aerodynamic function to any of the XS-series Specials. Made of optical acrylic, the mini-screen weighs only ½-pound. The hardware for mounting is optional ($3.00 extra), comes in non-glare black and is rubber isolated from the handlebar with a triple-tree mount.

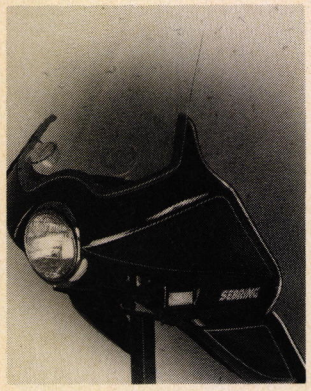


**Yamaha Parts Distributors, Inc. Cont'd**
**Price: $45.95**
The **Midi Cruiser** shares many of the features as the Mini Cruiser. Weighing 1.5-pounds, the Midi Cruiser fits only the XS400H/SH/G/SG and SR250. Its four-point rubber-isolated mounts are chrome plated, and included with the price of the windscreen.

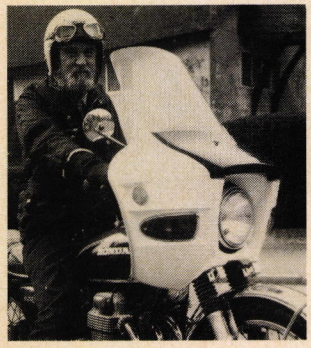


**Yamaha Parts Distributors, Inc. Cont'd**
**Price: $61.95**
The **Maxi Cruiser** is intended to offer the most rider protection of all the Yamaha Cruiser shields. Like the Mini and Midi, it's constructed of optical acrylic plastic and has an optional four-point rubber-isolated mounting system ($22.95 extra). The Maxi Cruiser fits most Yamaha street models.

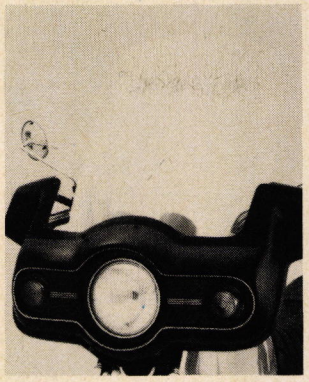
## HANDLEBAR-MOUNT FAIRINGS



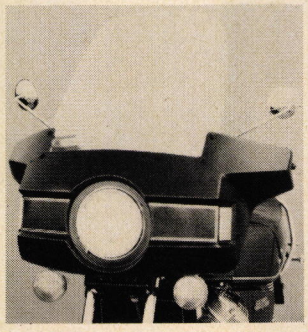
**A & B Fiberglass Productions**
**15661 Producer Lane, Unit N**
**Huntington Beach, CA 92649**
**(714) 892-6649**
**Price: $113.20**
An interesting feature about the **Sebring Sprint** is the built-in dual-filament running/turn signal lighting system. The fairing is made of fiberglass, and has a universal four-point mounting system which adapts to most motorcycles. The windshield is DOT-approved, and standard fairing colors are white or black. Optional gelcoat colors to match your bike are available for extra cost, and come with pinstriping, too.



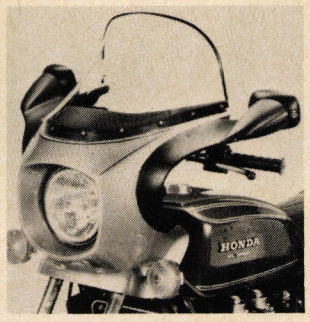
**Tom Andersen Motorcycle Equipment**
**1441 W. Demeter, P.O. Box 472**
**Freeport, IL 61032**
**(815) 235-2747**
**Price: $345.00**
Tom Andersen Motorcycle Equipment offers the **Clipper** (shown) and **Cutter** handlebar touring fairings, made in England by Craven to fit most Japanese and European motorcycles. The Clipper sells for $345 and is constructed of double-layer fiberglass, and the Cutter ($240) features single-layer. The Clipper has a curve-formed integral turnsignal system, while the Cutter utilizes the stock motorcycle signals. All fairings come with mounting hardware; available colors are white or black.



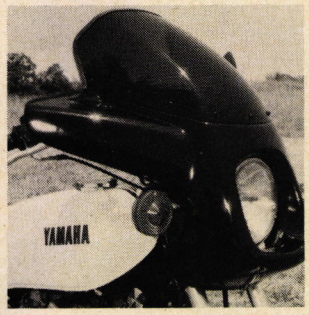
**Bates Industries, Inc.**
**P.O. Box 2668-GF**
**Long Beach, CA 90801**
**(213) 435-6551**
**Price: N/A**
The Bates **Supershield** is designed for 400cc bikes such as the Honda Hawk. The shell is constructed of ABS plastic and has a black pebble-grain finish. The windscreen is clear or green plexiglass.



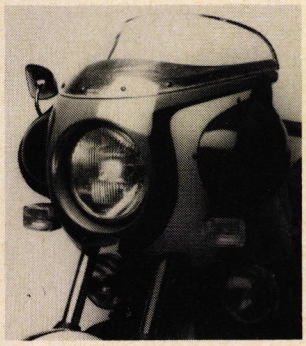
**Bates Industries, Inc. Cont'd**
**Price: N/A**
The Bates Supershield for mid-size bikes has an ABS plastic lower and 3.16-inch-thick plexiglass windscreen (clear or green tint). Features matching side reflectors and gold striping. Weight is eight pounds.



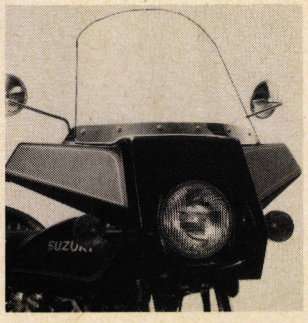
**Beach's Motorcycle Adventures, Ltd.**
**2763 West River Parkway**
**Grand Island, NY 14072**
**(716) 773-4960**
**Price: $370.00**
The **Krauser Cockpit** was designed by Mike Krauser, and is constructed of ABS plastic. The Krauser Cockpit has mounting hardware to fit most large sport and touring motorcycles. Included in the package are two VDO gauges, a voltmeter and clock. Other VDO gauges can be substituted. Twin Talbot mirrors come with the fairing. Colors are black or yellow.



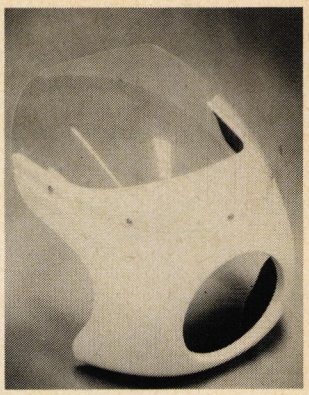
**Beach's Motorcycle Adventures, Ltd. Cont'd**
**Price: $129.00**
The **Rennsport Replica** is constructed of ABS plastic and weighs 4.5 pounds. A smoke-tint windscreen is standard, and the fairing comes in black only. The Rennsport Replica fits most motorcycles with seven-inch round headlights.



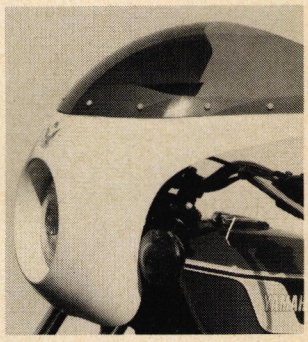
**Michael Bondy Associates**
**Box 123**
**Haworth, NJ 07641**
**(201) 385-2552**
**Price: N/A**
**BMW Fairing Cuffs** fit OEM fairings for the BMW R/90S and the R/100S. The cuffs are made of fiberglass, and are hand-finished in black. Mounting hardware and instructions are included.



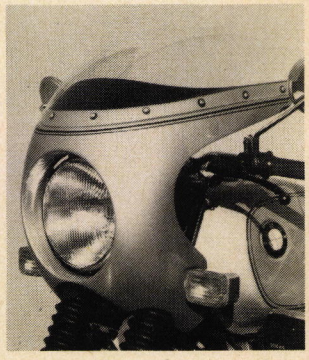
**Calafia Industries, Inc.**
**540 West Lambert Road**
**Brea, CA 92621**
**(714) 990-2777**
**Price: $149.95**
Calafia's **Roadrunner** is a handlebar fairing with four-point mounting, and is available in either a round headlight or rectangular headlight model. Standard colors are black or white, with clear windscreen only. Optional custom color match is available for extra.



**Camber Fairing Company**
**1640 Pomona Avenue**
**Costa Mesa, CA 92627**
**(714) 646-4852**
**Price: $93.00 to 98.00**
The **CR-250** is basically BMW's R100S quarter-fairing downsized to fit the 250cc range. It's constructed of hand-laid fiberglass in black or white gelcoat, with a lightweight plexiglass screen in either clear or smoke. A two-point mounting system attaches to the headlight bolts and may require low-rise European or clubman bars.



**Camber Fairing Company Cont'd**
**Price: $110.00 to 129.00**
The **CR-500** is similar to BMW's R100S quarter-fairing, but has been cut to fit around turnsignals. Mounting is two-point to the headlight bolts. Construction is hand-laid fiberglass cloth with isothalic resin. Colors available are black or white, with clear or smoke windscreen. Low-rise European or clubman bars may be necessary. Taller windscreen optional.



**Camber Fairing Company Cont'd**
**Price: $139.00 to 157.00**
The **CR-600** is a replica of BMW's R100S quarter-fairing that fits all BMWs made since 1974, except the '79 R65, and can be adapted to most bikes over 500cc. Constructed of hand-laid fiberglass cloth, the CR-600 has a textured dashboard with room for two instruments. Fits either seven-inch or eight-

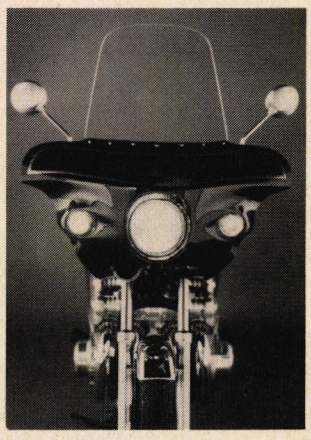
inch headlights. It has four-point mounting to the headlight bolts and turnsignal stalks. White or black gelcoat, with clear or smoke windscreen. Optional touring windscreen bolts to the same holes. Requires one-inch-rise European or clubman handlebars. Turnsignals may need relocating.

**Chaparral**
**Star Route**
**Box 992**
**Lytle Creek, CA 92358**
**(714) 889-2761**
**Price: N/A**
Chaparral's **Cafe** fairing has Universal mounting hardware so it fits just about any motorcycle. The ABS-constructed fairing comes in white or black, and is available with an optional smoke-tint windscreen.

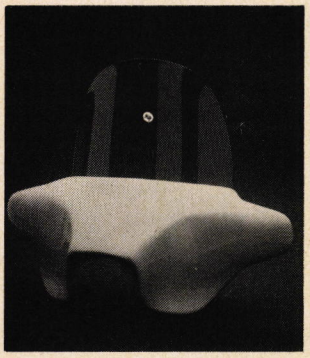
**Chaparral Cont'd**
**Price: N/A**
The **Winged** fairing fits most motorcycles, and is available in three colors: black, white and silver. A smoke-tint windscreen is standard. The fairing shell is constructed of ABS plastic and comes with mounting hardware.

**Paul Dunstall Organization, Inc.**
**27402 Camino Capistrano,**
**Suite 104**
**Laguna Niguel, CA 92677**
**(714) 831-0351**
**Price: $137.50**
The **Dunstall GP** handlebar-mount fairing fits most motorcycles up to 500cc. The GP comes standard with smoke-tint windscreen. Also available is the Dunstall 'S' Sports Fairing ($168) for 250cc to 1100cc motorcycles. The GP and 'S' have spoiler lips and round headlight openings.

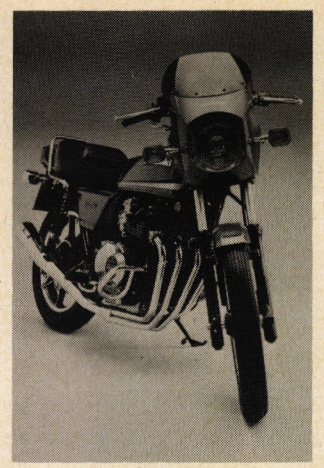
**Firth Design Group**
**1119 Riverwood Drive**
**Burnsville, MN 55337**
**(612) 890-1570**
**Price: $110.00**
The **Piranha** quarter-fairing weighs 4 pounds. Mounting system is four-point to headlight bolts and handlebar; construction is hand-laid fiberglass in black gelcoat with clear or smoke-tint screen. Separate dashboard stiffener fastens behind fairing with windshield bolts. Trim bead around seven-inch headlight opening. Low-rise European bars or clubman bars required and turnsignals may need relocating.



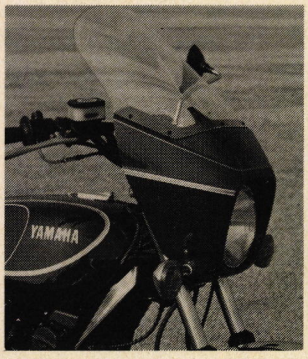
**Arthur Fulmer**
**P.O. Box 177**
**Memphis, TN 38101**
**(901) 525-5711**
**Price: $195.95**
The **Arthur Fulmer** fork-mount fairing is constructed of fiberglass. The motorcycle headlight doesn't require repositioning, and integral turnsignals are included with the fairing. Colors are black or white.



**Harley-Davidson Motor Company**
**3700 West Juneau Avenue**
**Milwaukee, WI 53201**
**Price: $124.95**
**Harley Davidson**'s handlebar-mount fairing for Electra Glides is available in matching colors of Vivid Black or Birch White. It has a **Lexan** windshield, and is constructed of hand-laid fiberglass. It mounts to 1980 and earlier Electra Glide models using stock handlebars.

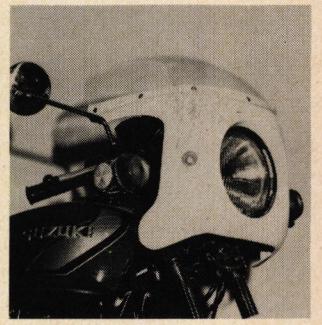


**Kawasaki Motors Corporation**
**1062 McGaw Avenue**
**Santa Ana, CA 92711**
**(714) 540-9200**
**Price: $179.95**
The **Kawasaki** handlebar-mount fairing is designed especially for the KZ550A. Constructed of hand-laid fiberglass, the fairing comes with smoke-tint windscreen and mounting brackets. It's color-matched for the 1981 model KZ550A.

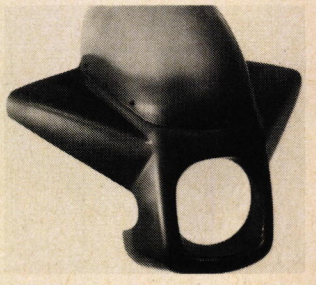



**Laminar, Inc.**
**1514 Fairview, Box 12332**
**Columbus, OH 43212**
**(614) 488-5158**
**Price: $124.95**
The **Imola** is constructed of fiberglass and features European styling. The five-pound fairing fits most motorcycles, and comes in high-glass black gelcoat accented with gold pinstriping. In order to accommodate turnsignals, integral mounts are located on the bottom of the nose. Laminar also offers the **Imola Mk. II**, which shares the same basic styling as the Imola, but is about 66 percent wider. A smoke-tint windscreen is optional for both.

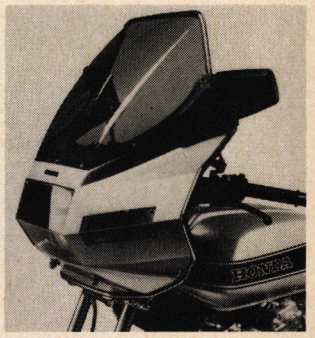
**Laminar, Inc. Cont'd**
**Price: $137.95 to 167.95**
There are two models of the **Sport**: The Sport 1 and the Sport 2. Both are constructed of hand-laminated fiberglass, and finished in high-gloss black gelcoat with gold pinstriping. The major difference is the headlight: The Sport 1 comes with an H-4 quartz-halogen headlight, while the less-expensive Sport 2 has a rectangular hole to accommodate headlights for the Suzuki GS750/1100, Yamaha XS1100 and Kawasaki KZ1300. There are three windshield sizes available, with smoke tint optional. Mounts, fasteners and instructions are included.



**Ocelot Engineering Products**
**895 West Mill Street**
**San Bernardino, CA 92410**
**(714) 884-0484**
**Price: $61.95**
Ocelot's **Quarter Fairing** is recommended for use on motorcycles equipped with cafe-style handlebars. The Quarter Fairing is constructed of lightweight ABS plastic; colors are white or black. There are three windshields available: clear, smole-tint or blue. Mounting brackets are included.

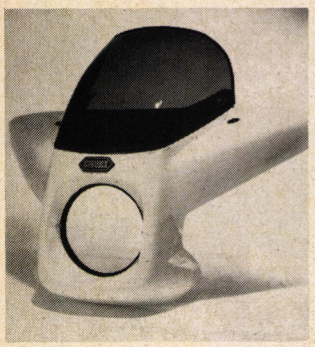


**Ocelot Engineering Products Cont'd**
**Price: $99.95 to 115.95**
Like the Quarter Fairing, the **Ocelot** fairing is constructed of ABS plastic. Standard colors are white or black, and silver is optional for $16 extra. The Ocelot Fairing comes with mounting hardware and a smoke-tint windscreen.

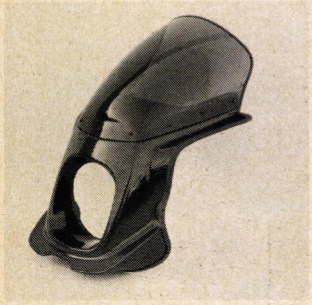


**Racecrafters, Inc.**
**7801 Canoga Avenue**
**Canoga Park, CA 91304**
**(213) 999-2811**
**Price: N/A**
Racecrafter's **Sport** fairing has integral turnsignals and mirrors, so all you do is mount the plastic fairing to your bike

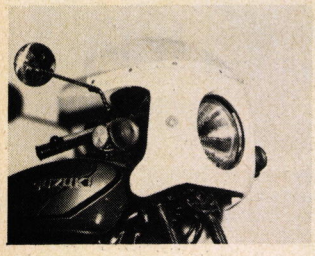
and ride. The square headlight housing has a transparent cover and universal boot that encloses most stock motorcycle headlight assemblies. The Sport fairing fits most medium- and large-bore motorcycles. Colors are black, white or silver.



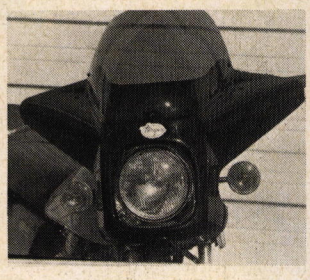
**Shoei**
**1717 Pontius Avenue**
**Los Angeles, CA 90025**
**(213) 477-6051**
**Price: $139.00**
Shoei's **FM-2** is constructed of pressure-molded fiberglass and fits most motorcycles with seven-inch round headlights. Four-point mounting bracketry is included. The FM-2 has a smoke-tint windscreen, and comes in black or white gelcoat. Also available is the FM-3, a lower and narrower variation of the FM-2. The FM-3 is intended to be used with motorcycles equipped with straight or low handlebars, price N.A.



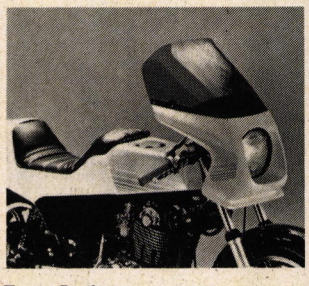
**Target Products, Inc.**
**2724 West Main Street**
**Alhambra, CA 91801**
**(213) 284-3238**
**Price: $145.00**
Target's handlebar fairing is constructed of hand-laid fiberglass, and comes in black or white gelcoat colors. All mounting bracketry is included. Available with seven-inch round headlight opening only. Smoke-tint windscreen is optional for an additional five dollars.



**Torque Products**
**895 West Mill Street**
**San Bernardino, CA 92412**
**(714) 884-0484**
**Price: $61.95**
The **Universal Top** fairing gets its name because it mounts to just about any motorcycle. Universal-fit brackets are included with this ABS plastic fairing. Colors are black or white, and an optional smoke-tint windscreen is available.

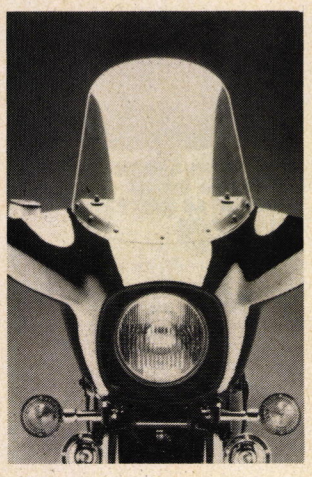


**Torque Products Cont'd**
**Price: $99.95 to 115.95**
The **TQ Fairing** offers sporty styling and protection from the wind. This ABS-constructed fairing comes in black or white, with silver optional for $16 extra. All three models have smoke-tint windscreens and come with mounting hardware. Replacement windscreens ($36.85) are also available.



**Tracy Design**
**709 East Gutierrez**
**Santa Barbara, CA 93103**
**(805) 963-3521**
**Price: $179.95**
The **Tracy Fairing** fits most bikes from 400cc on up, and is constructed of hand-laminated fiberglass with a plexiglass smoke windshield. It's available in black, silver or primer; custom paint is an optional extra. The fairing is of monocoque construction and utilizes a stock 6½- or 7-inch headlight and stock turnsignals. Stainless steel and aluminum hardware is included, as are countersunk nylon screws. This fairing is DOT-approved and can be mounted on most handlebars, but works best with European low bars.

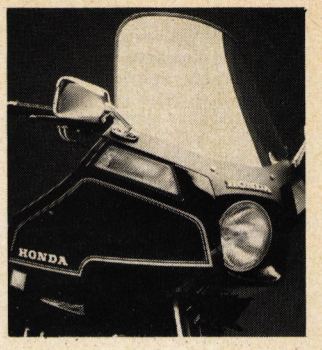
**Don Vesco Products, Inc.**
**7565 North Avenue**
**Lemon Grove, CA 92045**
**(714) 465-8256**
**Price: $99.95**
The **Colt Mini Sport** has universal-fit hardware for most bikes, with special bracketry for Honda Hawks. Made of hand-laminated fiberglass, the Colt weighs less than five pounds, and features a small dash area that shadows the instruments. Colors are white or black, and replacement windshields ($22.95) and mounting hardware ($17.95) are available extras.



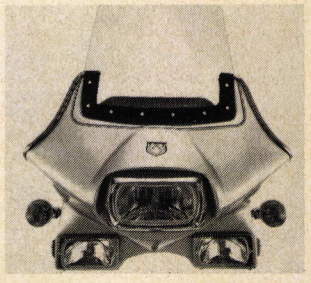
**Yamaha Parts Distributors, Inc.**
**6555 Katella Avenue**
**Cypress, CA 90630**
**(714) 761-7300**
**Price: $93.95**
Yamaha's **Sport** fairing is color-coordinated to the entire Yamaha street model line. The vacuum-formed ABS fairing has an optically correct acrylic windshield so visibility isn't distorted, and features a four-point rubber-isolated mounting system to minimize vibration. The Sport Fairing is available only at authorized Yamaha dealers, and fits all the XS Specials.

## FRAME-MOUNT FAIRINGS

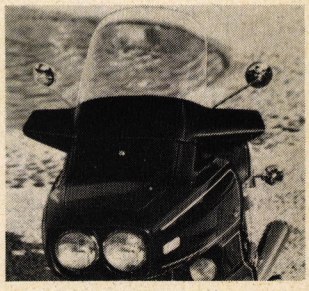
**A & B Fiberglass Productions**
**15661 Producer Lane, Unit N**
**Huntington Beach, CA 92649**
**(714) 892-6649**
**Price: $342.40**
The **Sebring** is constructed of fiberglass, and is available in black or white gelcoat. The plexiglass windscreen is DOT-approved, and a 40/50-watt sealed beam headlight and dual side pockets are standard. Options include color-matched gelcoat, pinstriping, sidelights, a taller windscreen, snap vents, lowers and Sebring Sound. A & B also makes the Sebring LT, which shares the same features as the Sebring, but is designed for motorcycles with rectangular headlights and costs $356.10.




**American Honda Motor Company**
**P.O. Box 50**
**Gardena, CA 90247**
**(213) 327-8280**
**Price: N/A**
**Hondaline** has ABS-formed fairings made especially for the following models: CX500C, CB650C, CB750C and F, CB900C and GL1100. The Hondaline fairing is styled much like the GL1100 Interstate fairing, and has a shatterproof polycarbonate windscreen with adjustable angle settings. Also standard are two air ducts leading to automotive-type adjustable shutters that direct air flow to just about any place in the cockpit. A built-in headlight adjuster and two storage compartments, one lockable, are also standard. Options include: chrome rectangular mirrors, color-matched lowers, an instrument panel and Hondaline's removable AM/FM stereo radio. The Hondaline fairing is available at Honda dealers.

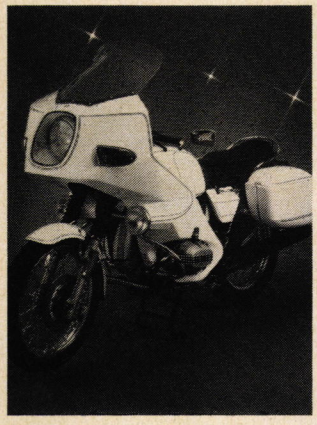


**A-Touring Accessory**
**1960 E. Co. Rd. F**
**White Bear Lake, MN 55110**
**(612) 429-7121**
**Price: $437.27**
The **El Dorado Fleetwood** is a custom-built fiberglass fairing which features a single quartz-halogen headlight and two built-in driving lights. Standard equipment includes a cigarette lighter and two storage compartments with tonneau covers. The El Dorado Fleetwood can be color-matched to your bike, and is painted with Emron paint. Comes with mounting brackets. Specify make and model of your motorcycle when ordering.



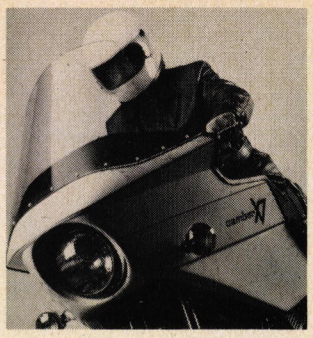
**Bates Industries, Inc.**
**P.O. Box 2668**
**Long Beach, CA 90801**
**(213) 435-6551**

**Price: N/A**
The Bates **Clipper** is constructed of fiberglass and is available in either black or white gelcoat. You can also order custom paint to match your bike. The Clipper fits a select number of touring motorcycles, including all Honda field Wings. Lower shell mounts to frame, upper shell to handlebar. Features are dual five-inch headlights, side reflectors, two lockable storage compartments and a front trunk. Windshields are clear or optional green tint, and both shields have a three-inch up/down adjustment. Dashboard has optional digital clock, map light and cigarette lighter. Requires turnsignal relocation.

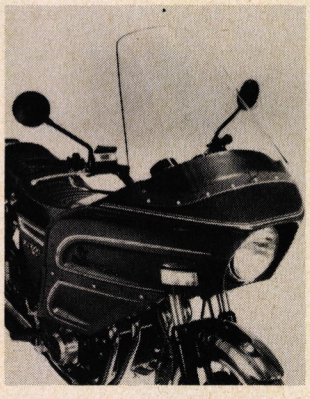


**Michael Bondy Associates**
**Box 123**
**Haworth, NJ 07641**
**(201) 385-2552**
**Price: $645.00**
The **Concord** is constructed of hand-laid fiberglass for all BMWs, including the R65. Turnsignals and dual spotlights are part of the package. Safety bars are available in chrome or black ($24.50 extra), and serve as part of the fairing mounting system. The Concord has two lockable compartments, and comes with lowers. Color is black only.

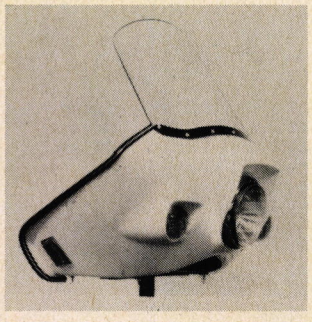
**Calafia Industries Inc.**
**540 West Lambert Road**
**Brea, CA 92621**
**(714) 990-2777**
**Price: N/A**
The **Eliminator STX** is constructed of ABS plastic, and is available in various acrylic colors. The STX has a seven-inch headlight opening, integral turnsignals and side reflectors. Storage space includes twin compartments with covers and map straps. The non-glare dashboard panel is designed to accommodate additional instruments, or a CB or radio. As with all Calafia fairings, the STX can be ordered with custom color-match for extra.



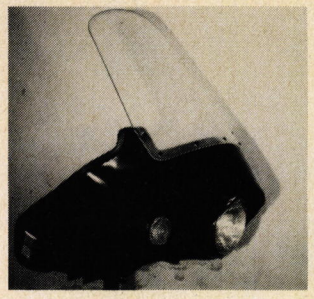
**Camber Fairing Company**
**1640 Pomona Avenue**
**Costa Mesa, CA 92627**
**(714) 646-4852**
**Price: $370.00**
The **X-7** fits most motorcycles over 500cc. It weighs 24 pounds and is constructed of hand-laid fiberglass cloth and isothalmic resin. It features a full interior with two lockable storage compartments and a clear acrylic windscreen. It has built-in turnsignals, seven-inch headlight and trim bead over all exposed edges. Also standard are removable lower panels and a large dashboard with mounts for CB, stereo, speakers and instruments. Colors are white or black gelcoat, and the X-7 is available with optional factory color-matching and pinstriping.



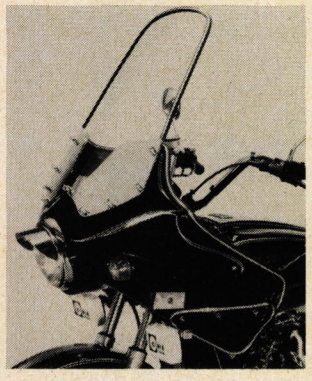
**Camber Fairing Company Cont'd**
**Price: $400.00**
The Camber **Cobra** fits most popular motorcycles over 550cc. It is constructed of hand-laminated fiberglass, available in black or white gelcoat. The fairing has lockable, hinged storage compartment covers, its own headlight and turnsignals. Leg shields are standard. Optional color matching and pinstriping available.



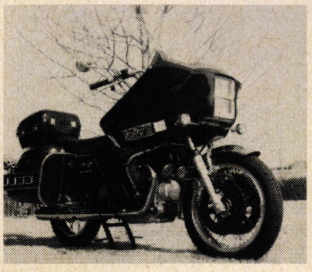
**Chaparral**
**Star Route, Box 992**
**Lytle Creek, CA 92358**
**(714) 889-2761**
**Price: $199.95**
The **Deluxe** fairing is constructed of fiberglass, and available in white or black. There are two storage compartments with lockable covers. Turnsignals and running lights are standard. Includes mounting hardware.



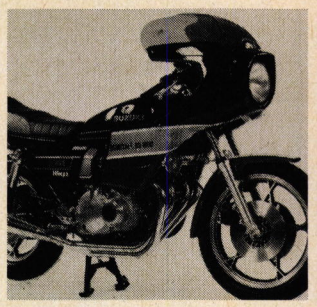
**Chaparral Cont'd**
**Price: $169.95**
The Chaparral **Custom** is made of polyethylene, and is available in black or white. The dash will accommodate a radio and gauges, and there are two locking storage compartments. Reflectors, turnsignals and headlight come installed.



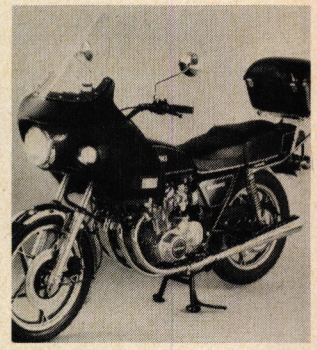
**Custom Dressers**
**6421 Cox Avenue**
**Oklahoma City, OK 73149**
**(405) 672-7564**
**Price: $586.00**
Custom Dressers sell the **Free Flow** fairing, a hand-laid fiberglass unit that fits most motorcycles from 500-1300cc. The tonneau covers match custom upholstery, which Custom Dressers provides on request. The headlight is furnished with the fairing, and a quartz halogen unit is optional. Two radios or a radio and tape deck fit on the dash; the chrome headlight shield also serves as radio antenna. Speakers mount to interior. Windscreen is made of abrasive-resistant Acralite. Lowers are optional, and the fairing comes in black or white colors. The Free Flow is guaranteed for one year. Order the Custom Dressers catalog ($3.00) to make your selection of options.



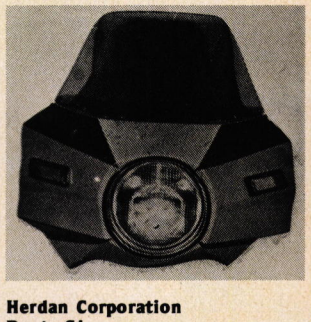
**DB Products, Inc.**
**120 South 122 East Ave.**
**Tulsa, OK 74128**
**(918) 744-6067**
**Price: $425.00**
The **Spoiler II** features dual headlights, a high-low-beam tandem that's included with the fairing. The fiberglass, frame-mounted fairing has dual locking storage compartments, and optional equipment including radio ($75.00) and lowers ($67.00).



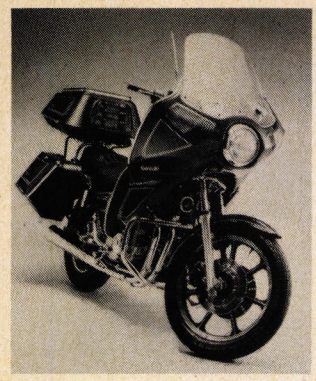
**Paul Dunstall Organization Ltd.**
**27402 Camino Capistrano**
**Suite 104**
**Laguna Niguel, CA 92677**
**(714) 831-0351**
**Price: $295.00**
The Dunstall **Super Sport** fairing fits most large-bore Japanese motorcycles, and is constructed of fiberglass. Colors available are black or red. Dunstall also makes special full fairings for the Suzuki GS1100 and GS750 to accommodate rectangular headlights.



**Arthur Fulmer**
**P.O. Box 177**
**Memphis, TN 38101**
**(901) 525-5711**
**Price: $242.95**
The **Commuter Fairing** is constructed of polyethylene, and fits most mid-size motorcycles. It has integral turnsignals and running lights. There are two storage compartments. Available in black only.

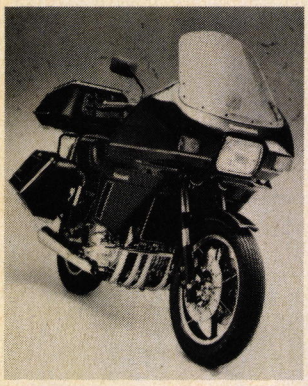


**Herdan Corporation**
**Route 61**
**Port Clinton, PA 19549**
**(215) 562-3155**
**Price: N/A**
The **NISA Sport** is a fiberglass fairing made in Italy. The Sport features integrated turnsignals, tinted shield and red or silver-with-black-trim colors. Herdan Corporation also has a half-fairing and a 3/4-fairing, both available in bright red with black trim.



**Kawasaki Motors Corp.**
**1062 McGaw Avenue**
**Santa Ana, CA 92711**
**(714) 540-9200**
**Price: $419.95**

Built by Vetter for the **Kawasaki** KZ1100A, this frame-mount fairing is constructed from ABS plastic. The lucite windshield has pop vents and nylon mounting screws. Locking right storage compartment. Also available in black or silver ($359.95), but comes without pop vents and mounting brackets. All models have Vetter Leading Edge turnsignals/lights. Lowers are optional ($88).

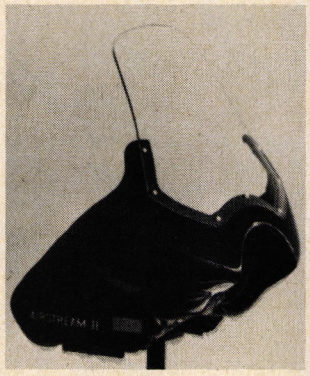


**Kawasaki Motors Corp. Cont'd**
**Price: $525.00**

The **KZ1300A** fairing is an exclusive design for Kawasaki by Vetter. It's constructed of hand-laid fiberglass, and features a built-in headlight adjuster and two locking storage compartments. Comes with hot air deflectors, adjustable air vents, three-point mounting hardware and a clear windshield. Color-matched to the KZ1300A, with gold pinstriping and graphics. Matching lowers are optional ($89.95) and are constructed of fiberglass. The lowers also have air vents and matching gold pinstriping and graphics. As with the KZ1100A fairing, the KZ1300A fairing is available at Kawasaki dealers.

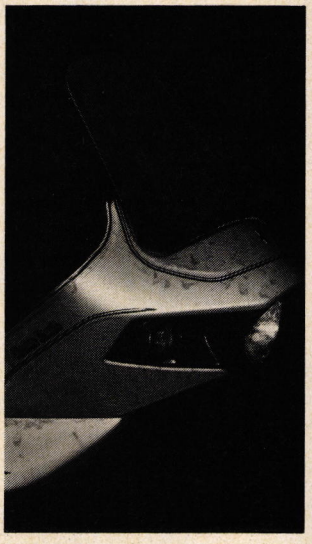
**Luftmeister, Inc.**
**135 E. Stanley Street**
**Compton, CA 90224**
**(213) 638-6192**
**Price: $357.50 to 434.50**

**Luftmeister** makes this hand-laid fiberglass fairing for BMWs and most Japanese motorcycles. Price depends on color selected. Storage compartments include two tonneau-covered pouches, and the dash provides for two gauges. There's also a headlight adjusting knob on the dash. Comes with acrylite shatterproof windscreen, side running lights and chrome molding on all fiberglass edges. Optional "Dryper" seals around fork tubes, and matching lowers are available for an additional $99.50. The model for Japanese bikes costs $467.50, and includes a Bosch headlight and turnsignals.



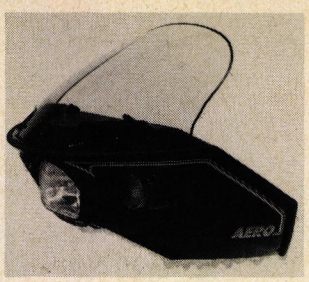
**Ocelot Engineering Products**
**895 West Mill Street**
**San Bernardino, CA 92410**
**(714) 884-0484**
**Price: $164.95**

The Ocelot **Airstream** is available in either black or white ABS plastic. There are two lockable storage compartments. Stock headlight and turnsignals are used. Options include snap vents, side marker lights, striping, taller windshield, lowers and handlebar covers.



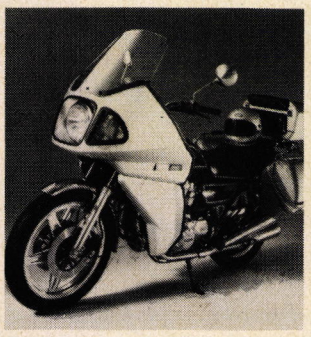
**Pacifico Inc.**
**1625 SE Hogan**
**Gresham, OR 97030**
**(503) 666-5502**
**Price: $399.00**

The Pacifico **Classic** is computer-designed for aerodynamic efficiency. The ABS-plastic fairing comes standard with an in-dash adjustable headlight, cigarette lighter, large storage compartments with lockable covers, and pinstriping. Options are: double-wall molded lowers and small items tray. Windshields cost extra, the standard 21-inch screen costs $26, the tall (23-inch) is $29. Colors are black, white or silver.



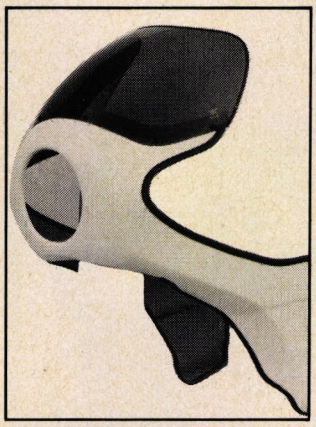
**Pacifico, Inc. Cont'd**
**Price: $295.00**

The **Aero** measures 29 inches wide and weighs 18 pounds. The computer-designed fairing is constructed of ABS plastic. Standard features include locking pockets, in-dash headlight adjuster, optional rectangular headlight kit, and an air-control system. Options are in-dash gauges and cigarette lighter. The price of the Aero doesn't include the windscreen, because there are three styles available. The Sport bubble shield is shown. Colors available are black, white or silver.



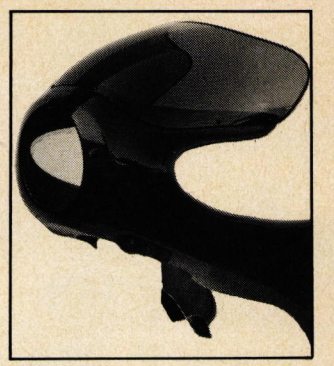
**Shoei**
**1717 Pontius Avenue**
**Los Angeles, CA 90025**
**(213) 477-6051**
**Price: $499.00**

The **GF-1** is a dual-layer fiberglass fairing that mounts to the frame using U-bolts. The dual shell construction is bonded and then riveted together. Turnsignals are integral and lowers are optional. Windscreen is clear. Uses stock motorcycle mirrors and seven-inch headlight. Weight is 16.5 pounds.



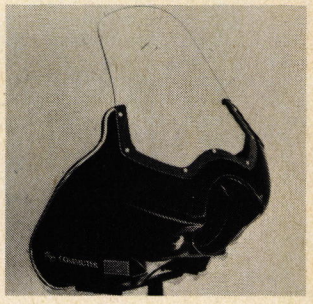
**Target Products, Inc.**
**2724 W. Main Street**
**Alhambra, CA 91801**
**(213) 284-3238**
**Price: $265.00**

This **three-quarter** fairing is suitable for most medium-range motorcycles, such as the Yamaha RD400. It features a seven-inch headlight opening and Target's six-hole windscreen. Available in clear or smoke tint.



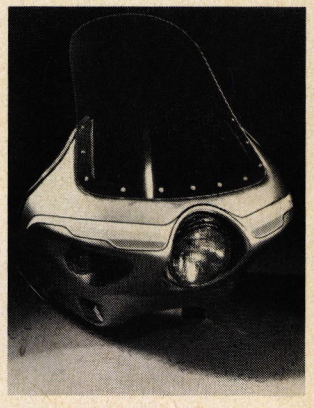
**Target Products, Inc. Cont'd**
**Price: $285.00**

This **three-quarter** fairing is for large-bore motorcycles. Low bars are required, and the headlight opening is 7¾ inches. An optional smoke-tint windscreen is available (add $5.00). As with all Target fairings, this race-replica three-quarter fairing is made of fiberglass.



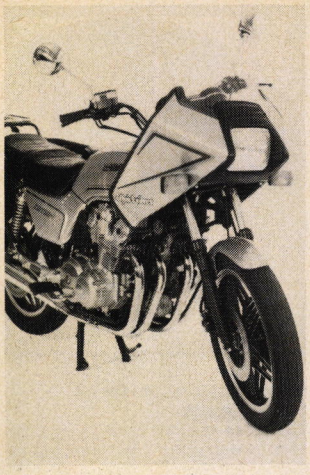
**Torque Products**
**895 West Mill Street**
**San Bernardino, CA 92412**
**(714) 884-0484**
**Price: N/A**

The **Commuter** has an ABS shell with two locking tonneau-covered compartments. Mounting hardware is included, and the standard motorcycle headlight and turnsignals are retained. Colors are black or white. Options include snap vents, side marker lights, two-inch higher windshield, lowers and handlebar covers.



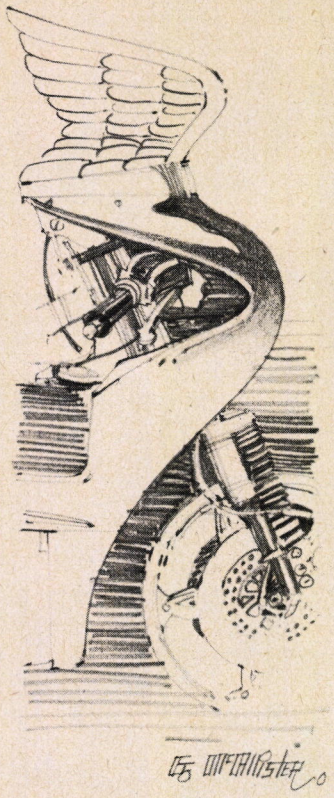
**Torque Products Cont'd**
**Price: N/A**

The **Free Spirit** is constructed from co-extruded ABS plastic, available in black or white. The inner shell is textured ABS plastic. A round seven-inch headlight hole and turnsignals are standard. Storage includes two locking compartments on each side of the fairing, and an optional large dash to mount a radio, gauges or other equipment. Options include snap vents, lowers and a two-inch higher windscreen.



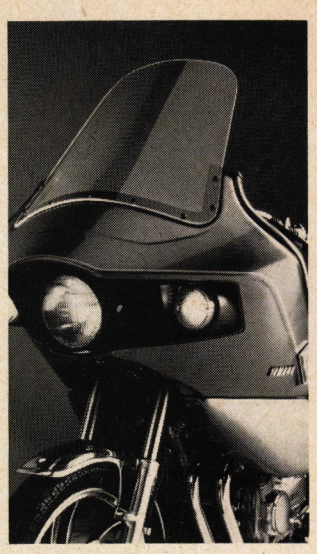
**Vetter Corporation**
**1150 Laurel Lane**
**San Luis Obispo, CA 93401**
**(805) 541-2900**
**Price: $258.25**

The **Quicksilver II** is manufactured of ABS thermoformed plastic, and is available in three windshield sizes, all of Lucite plexiglass. Retail price includes either sport or regular windshield, while the taller windshield costs extra. The 16-pound Quicksilver II is available in black, white or silver colors. Features are: black accent turnsignals, soft tonneau covers, black pebble-grained interior, and headlight mask for the rectangular sealed beam. An optional Bosch quartz light is available. As with all Vetter products, the Quicksilver II has a six-month, limited warranty.



**Vetter Corporation Cont'd**
**Price: $549.00**

The **Windjammer V** is the latest of the Vetter Windjammer line. Constructed from ABS thermoformed plastic, the Windjammer V is available in colors to match most touring motorcycles. It features built-in Leading Edge lights, headlight adjustment knob, cigarette lighter, a quick-change headlight ring, Bosch quartz headlight, tonneau-covered left pouch, right locking compartment and pinstriping. Options for the Windjammer V are: larger windshield, windshield pop vents, Vetter Sound dash-mount housing, Fiamm horns, Fair Warning radar detector, and color-match polyurethane finish to match most touring motorcycles.



**Yamaha Parts Distributors, Inc.**
**6555 Katella Avenue**
**Cypress, CA 90630**
**(714) 761-7300**
**Price: $399.95**

The Yamaha touring fairing is color matched to the XS650, 850 and 1100. Constructed of vacuum-molded ABS acrylic, the Yamaha fairing has a textured interior that includes two adjustable air vents, two locking storage compartments and a cigarette lighter. There are two windshield heights available, and each fairing comes pinstriped and includes turnsignals and running lights. The 25-pound fairing has optional lowers, too.

Beautiful brand name embossed GL 1000 model shown. Also for Kawasaki, Suzuki, Yamaha, BMW, Moto-Guzzi and Harley-Davidson with embossed logos.

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# SPORT LINES

*Cycle Guide's True Tales of Race Courses, Dark Horses and Machines at Speed*

EDITED BY JEFF BURTT

# Corrida Italiana de Toros

*When it comes to Superbike racing, just say "Bull!"*

PHOTOGRAPHY: © 1981 RON HUSSEY

• The Honda mechanics silently rolled No. 8 out of the van. It moved backward slowly, like a silvery bull being unloaded from a boxcar into the pen to await its afternoon confrontation in the *plaza de toros*.

And there I stood, just 20 feet away, like a young matador viewing his opponent for the first time. The No. 8 bull was Freddie Spencer's Superbike, which Honda made available for me to ride this sunny autumn day at Willow Springs Raceway.

In the past, my exposure to The Bull consisted of watching from the sidelines while Fast Freddie grabbed its horns and yanked it around corners at AMA Nationals, spurring it down the straights until its 1023cc heart pounded and screamed in a frenzy. Spencer—*el torero bravo*—knows how to command The Bull, and the trackside crowd shouts its approval not with brawling *Olés*, but with whoops of delight and disbelief.

But today, at Willow Springs' lonely desert setting, the only crowd was four Honda mechanics and myself. No. 8 had been temporarily pulled from AMA service and entrusted for 10 laps to AFM No. 184, *aka* Daingerous Dain, for a riding impression. *Corrida Italiana de Toros* was about to begin.

Before putting on my dayglo-red disco-Dain leathers, Honda-man Mike Velasco gave me a nuts and bolts Honda-Superbike seminar, and the biggest surprise was the near-virginity of the frame to the welder's torch. The steering geometry is blueprinted to CB750F specs and there's some additional gusseting added to the frame backbone under the stock-appearing gas tank (which is slightly modified to accommodate the Blue Magnum carburetors, affectionately referred to by the Honda boys as the Black Bombs). The top shock mounts are moved forward to provide a cantilever shock position, and the rear frame section is angled upward to allow for the additional rear-wheel travel. That's about it.

According to Velasco, Fast Freddie prefers his suspension settings slightly stiffer than his teammates' bikes. Up front is a modified GL1100 fork; out back a pair of Mulholland LTG shocks. The GL1100 forks add cornering clearance, since they're longer than the CB750F legs. Velasco allows that Spencer selects a firm suspension combination—along with a WM7 rather than a wider WM8 rear wheel—because he "stuffs the bike into turns," rather than tippy-toeing toward the apex as you normally would on a TZ250 GP bike. When Fast Freddie corners, everybody listens, in-

*Continued*

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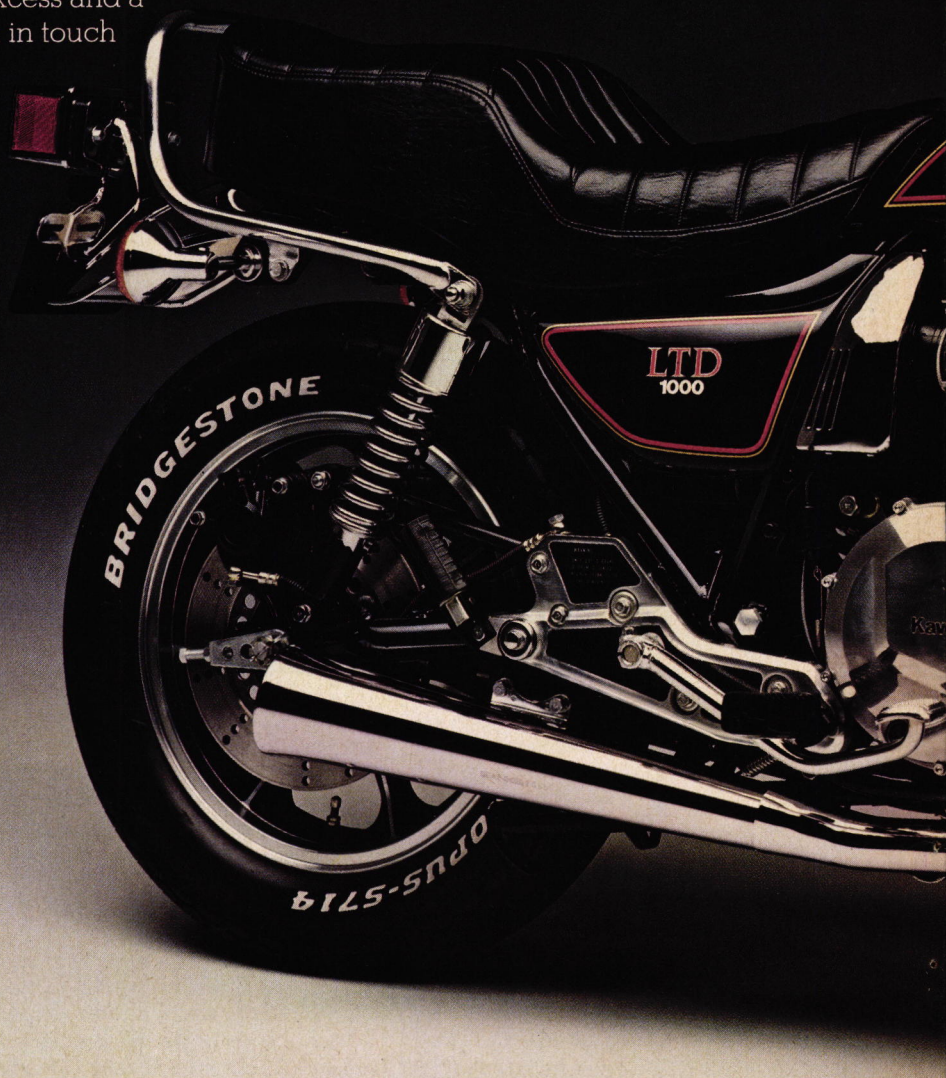


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# NS THE DIFFERENCE
# 'AND A SLUG.

the performance improved, but the handling is better as well. For added comfort, the engine is supported by rubber mounts that reduce vibration.

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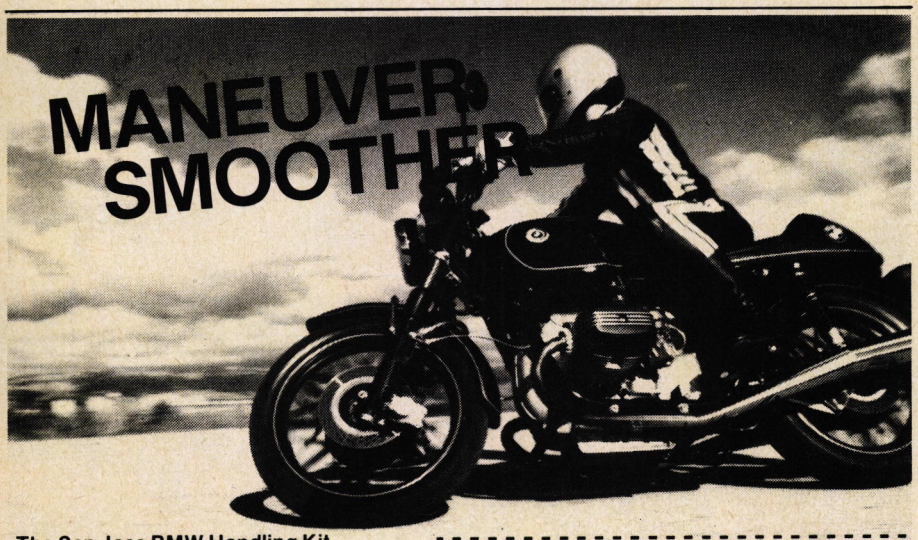


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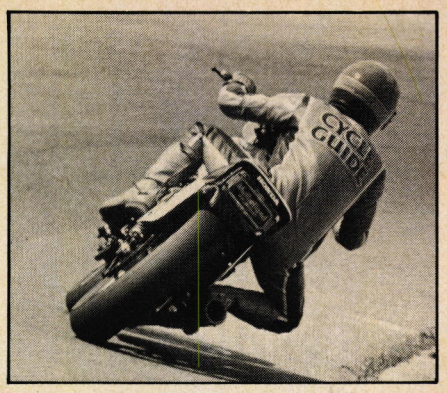

**Fast Freddie would stuff this turn**

*But Daingerous Dain just tippie-toes.*

cluding the machine.

My roving eyeballs caught sight of the mangled metal at the junction of the header and tailpipe, plus the blistered Goodyear slicks, and I understood Velasco's explanation of Spencer's riding style. The rear disc looked brand new, too. "Freddie doesn't like to use the rear brake," Velasco said almost apologetically when he saw my quizzical expression. Freddie slows the 413-pound beast by using the two front 13-inch-diameter Mehanite discs, not to mention all kinds of tire friction, when he sets the bike into the famous Fast Freddie Spencer Superbike Slide.

Velasco recalled the time the rear brake pedal got in Spencer's way during practice before a National. Freddie asked that it be removed for the race so it wouldn't interfere with his foot movement—balance is essential when aiming a 140-bullpower motorcycle over a patch of asphalt the size of your closed fist. Velasco and the other Honda mechanics tried to reason with the lanky Louisianan, and a compromise was reached: The pedal was moved up and out of the way for the race, but it remained part of the bike. What Fast Freddie wants, Fast Freddie gets—sort of.

Enough of Fast Freddie. Now its time for the new matador. "Suit up," Velasco tells me. I do. And No. 8 sits in the bull pen, obscured by mechanics prepping it for my ride. For the first time in years, my racer-trained gray matter sends messages to my body that only novice racers feel. My legs and arms wiggle like jello as they're poured into a large, empty leather pouch. While my rubbery fingers grab the front zipper, three mechanics check over The Bull as a fourth raps the throttle. Their glazed eyes, the eyes that only tuners have when an engine whips its tach needle up to 10,500 rpm, massage The Bull. They want everything perfect—just the way Fast Freddie would want No. 8 to be before a National.

No. 8 is ready. Time to ride, and four sets of eyes turn my way as if to say, "Por favor, Señor Daingerous, The Bull, he waits."

I am ready. They silence the engine, and only the whispering desert wind penetrates my helmet. My breathing sounds like something in an underwater scene from an old *Sea Hunt* program as I snap my visor closed.

I saddle The Bull, and its understuffed seat coldly welcomes my butt. With firmness, and

*Continued*

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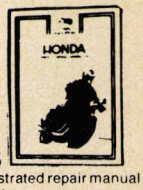


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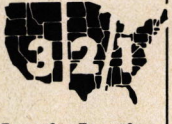

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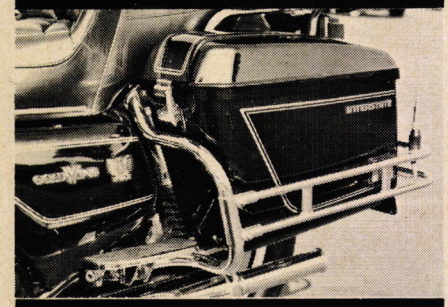
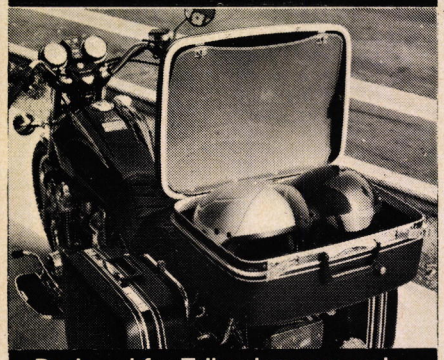


Systems also for BMW Krauser, GL1000, GL1100 Hondaline; GL-1000, GL1100, KZ1300, GS750, GS850, GS1000, XS11 Samsonite Tribar; CX500, GL1000, GL1100, KZ1300, GS750, GS850, GS1000, XS11 Vetter. All models show chromed.

## Tribar Travel Trunk



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Pictured in next issue:

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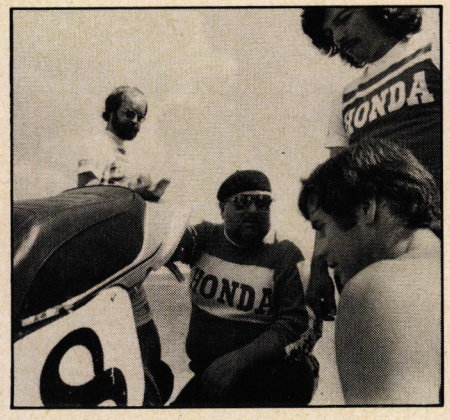
respect, I grab The Bull by the horns. A simple bump-start, and we head toward Turn One. Engine power up to 6000 rpm is firm but civilized. As the tach needle swings more to the right, The Bull's hoofs kick harder at the asphalt, and my vision tunnels forward until only the upcoming turn and tachometer are in focus. By 7500 rpm The Bull's engine is steaming, and suddenly at 10,500 it doesn't sound like a bull any longer. I'm sitting on a silver missile that wants to lift its nose and take me skyward.

After a few indoctrination laps and a pit stop for tire examination, I'm ready for the moment of truth. One of the bulltamers tells me the rear tire is on the verge of peeling its last layer of rubber, so be careful. "Si, Señor, and adios," I say, and The Bull and I break loose out of the pen and into the arena one more time.

I'm braver these laps, and the turns approach me at Warp Three. Not to worry, because the bike responds not like a bull at all: I pick my apex and No. 8 steers easily with little muscle required, save for some extra forearm/bicep strength to help keep the wheels aligned. Even so, entering turns at Warp Three takes courage, so I gently squeeze the front brake lever. Suddenly the turn appears light years away, and this moto-matador discovers the fine touch required in braking a Superbike for a turn. This one aspect of riding a Superbike fast separates the men from the boys, the winners from the losers, and in this case, the Fast Freddies from the Daingerous Dains. You see, the Louisiana contingent circulates Willow Springs at one minute, 30 seconds and change. I got down to a 1:37.5 personal best.

Sure, seven seconds is a lot of space to fill, but I figure a respectable club racer such as myself could do rather well aboard No. 8 in real combat. The point is, I learned The Bull isn't as wild as I thought. That's a tribute to the Honda Superbike team and mechanics. The bike can and will scare you—if you let it. But anybody with roadrace experience and knowledge won't feel intimidated by the fat Goodyear slicks relaying the 140-plus bullpower to the pavement.

But it's one thing to get into the arena with The Bull for one lap and another to cape it successfully for 40 minutes in the company of a whole herd of other Bulls. That's why I intend to say all my future *Olés* from the safe side of the track. —*Dain Gingerelli*

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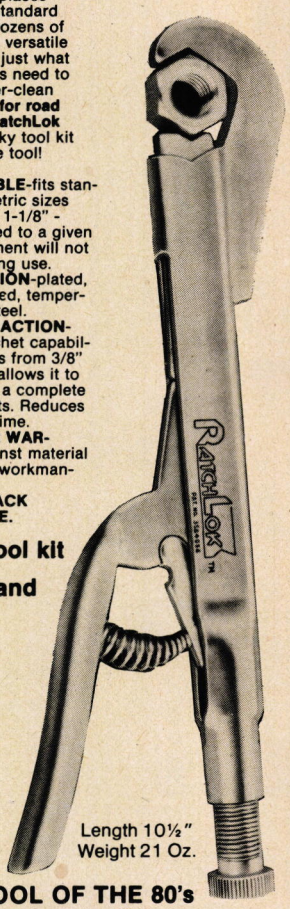


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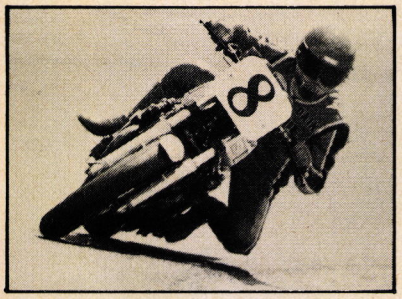
# F-Type Secrets

## *The hardware that makes Freddie fast.*

• The F-type Superbike looks wickedly fast on the racetrack. And when you see the amount of high-tech hardware it carries, you think you understand why. First, the rear end sports Mulholland LTG shocks while the front end has an air-spring fork from the GL1100 with reworked internals. The frame is gusseted at the backbone behind the steering head, above the front engine mount and above the swingarm pivot. The swingarm itself is reinforced. Two Melhanite brake discs, 13 inches in diameter, ride on the front Morris magnesium wheel. Then there's the engine, derived from RSC technology, with its dry clutch, close-ratio gearbox, 10.3:1 compression and 1mm oversize valves, not to mention the cylinder head flowed by Jerry Branch and the pipe built by Spencer's tuner Mike Velasco.

Yet there's nothing wicked in the way the bike works. After Honda's remarkable showing at the 1980 Daytona Superbike race, Ron Pierce—responsible for much of the F-type's development and a rider who



**Warp Three and counting upward**

*Look out for the Bull, Señor.*

knows both the F-type and the Yoshimura Suzukis—described the bike as quite easy to ride. "Basically, we shortened the bike up a little bit and changed the front end to make it steer quicker," Pierce said (juggling the triple clamps reduced the wheelbase one inch and the trail 0.3 inches). "Then we put the same Superbike suspension we'd developed at Yoshimura on the rear and put the front end from the Formula 1 bike on the front . . . It feels like riding a TZ250 because it steers so quickly. A Suzuki is a lot like what we thought the TZ750s would be when they first came out. Once you're committed, you have to work real hard to change line. You go into corners with the Honda and think about going inside, and you run off the inside of the course instead."

Pierce was similarly impressed by the power delivery. The F-type pulled smoothly, unlike its 16-valve stereotype, refusing to come on the cam and carbs suddenly like the Suzukis and Kawasakis.

*Continued*

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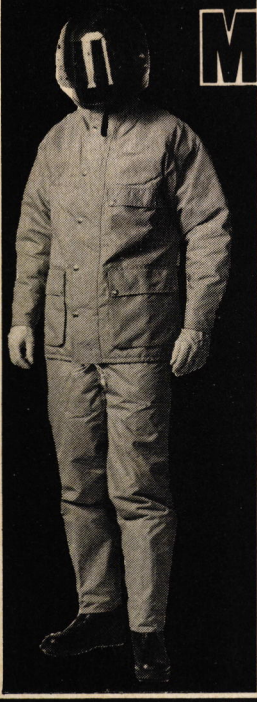

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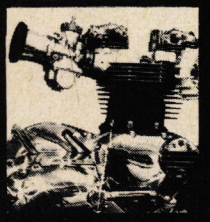

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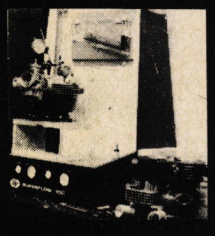

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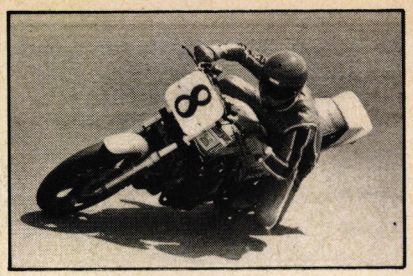


Pierce said, "Torque-wise, the Suzuki doesn't make much power. There's tremendous torque from Honda, more than 100 hp at 6000 rpm, while Suzuki has about 60 at the same point."

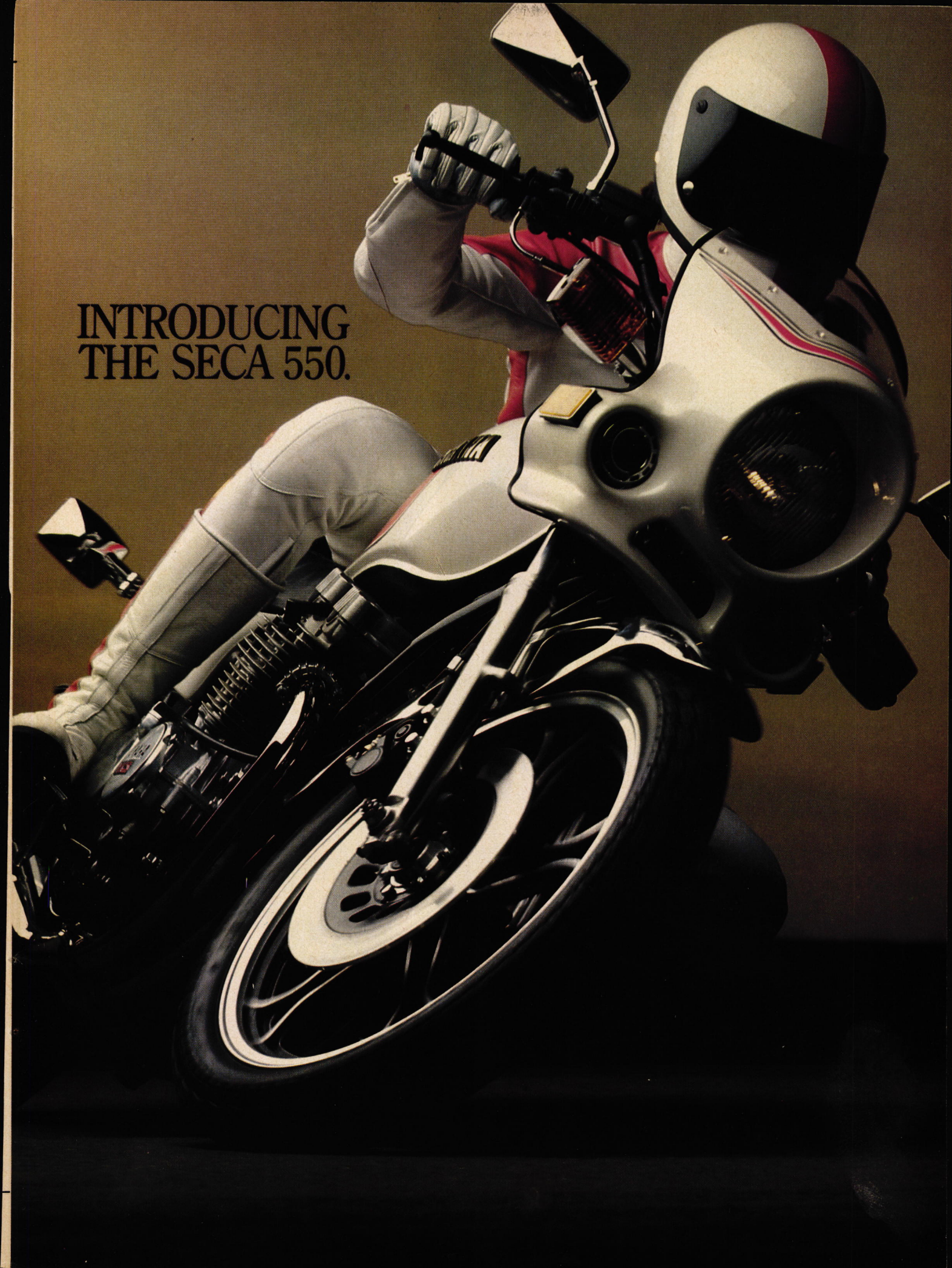
As it turns out, the precise steering and tractability that Gingerelli noted on his test ride contributed to Spencer's success last year. The front end's precision and grip lets you get into corners very hard—as Spencer habitually does—and then the engine helps you come out without the wheelspin that plagues the Suzukis and Kawasakis. In addition, the bike's good manners make it easier to pass lapped riders—or competitors, for that matter.

There are a lot of ways to build a race bike, but in this case, Honda seems to have amplified the F-type's characteristics instead of changing them. So maybe there *is* a real resemblence between the bike you ride on the street and the bike Spencer rides on the track. —*Michael Jordan*

**End of the day and shooting the bull**

*A card-carrying* corrida *cartel.*

*Continued*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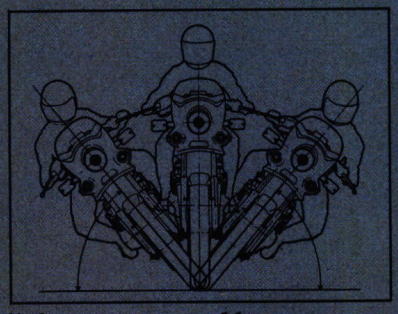

Yet it packs more power than you'd expect from a 550. A result of its high-voltage, low maintenance Transistor Controlled Ignition. And some technological wizardry called Yamaha Induction Control System. YICS, for short.

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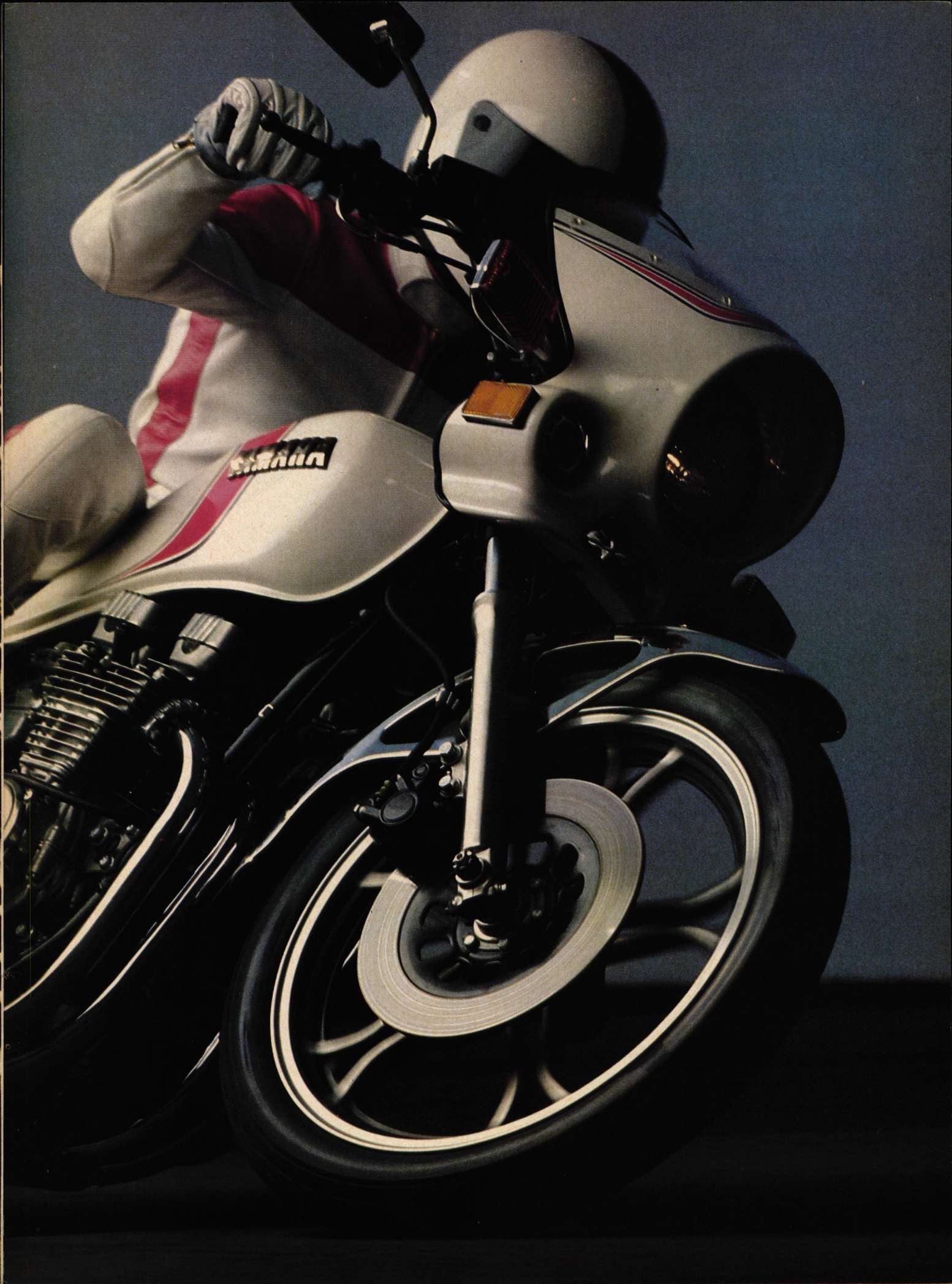

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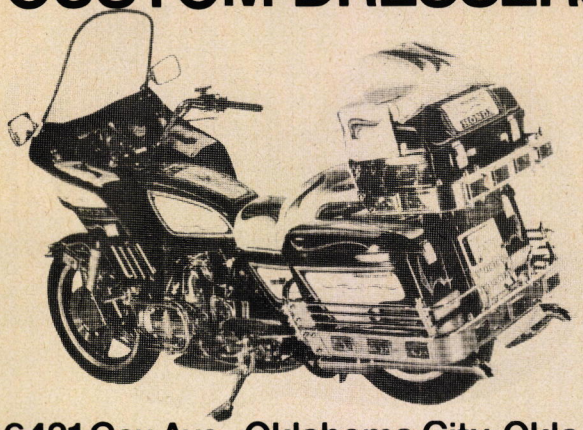

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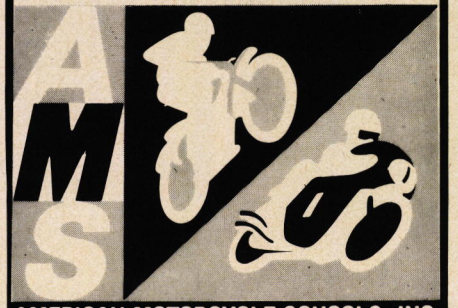


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# Pit Bits

• Despite strident protestations to the contrary from sources within Honda, rumors of a **CX750 flattrack** program persist. The latest deepthroat speculation has Jerry Griffith, the noted chassis builder, working overtime to produce 25 units for AMA **homologation** before the May San Jose Mile. With the advent of the Virago (see page 49), industry pundits solemnly swear that the proposed 500cc limit for heavyweight roundy-rounders will never be approved. That leaves Honda with but one **option:** To build a short run of racing-only bikes, a la Harley XR750.

• The NMRA, by the way, has announced a nine-race **Top Fuel championship** series for 1981, so O'Brochta will have to defend his title at two more events than were on the '80 calendar. Nine Pro Stock, eight Funny Bike (formerly Super Eliminator) and six Pro Comp **NMRA** race dates are on tap this year, too.

• We've heard tales that Yamaha Canada's **Bob Work** has been busy developing a brace of XS Eleven's for the **Daytona 200.** Work, who tuned for Steve Baker not too far back, is reportedly ecstatic with the project. Wonder if we'll see KR on a sleeved-down Eleven at the Daytona Superbike race?

• We mean, of course, the Bell **Superbike** 100—the official title—which will offer more than $30,000 in prize and contingency monies at the Big D race in 1981. In addition, Bell Helmets will present a **perpetual trophy,** the Bell Superbike Cup, to the manufacturer represented by the winning rider. Graeme Crosby (Suzuki), the 1980 winner, and Freddie Spencer (Honda) are morning-line picks to earn the trophy for their bosses. But don't count out a hot contest between Wes Cooley and Eddie Lawson, two riders with a more-than-emotional stake in the '81 Superbike season. Lawson, still smarting from an AMA **rebuff** of his protest over the '80 championship, and Cooley, the 1980 titleholder, are expected to renew an intense rivalry. Or should we say a no-love-lost-between-us challenge?

• Finally, with the **demise** of the Ontario Motor Speedway, Southern California club roadracers are hurting for weekend venues. Both the Riverside and Willow Springs Raceways have upped the ante for a day's **competition** to $100 and more per rider. Well, Larry Huffman—Mr. Moto-mouth, to some—racing's most renowned orator, has some acreage near Lake Elsinore, about 50 miles from Los Angeles. And rumor has it that "Jaws" might just be thinking about turning it into closed-course asphalt **twisties.** With an air conditioned, back-lit high zoot announcer's tower, naturally. •

# Project Land Shark

## *Testing the top-speed waters twice.*

• Some racing projects are simply born to success. They glide through the planning stage, gather momentum along the way and finally leap into completion and critical acclaim. Others don't.

CYCLE GUIDE's Project Land Shark never did leap. It sidled toward its end with all the eager restlessness of a dusty anvil. At times it seemed that Land Shark would never get off the ground—which, in its own way was fortunate, since it was expected to stay intimate with terra firma.

Like many of our projects, performance was the goal, top speed in this case. Land Shark was a rolling illustration of the importance of top speed to every bike, even those not normally linked with high performance. There's a record to be set in every displacement class, after all. The object of this exercise was a bone-stock Yamahopper, a rowboat in a sea of hydrofoils, and the

**Bystanders quake at the plaintive whale of dry-lake Land Shark**

*Dropping the hammer on Team Cycle Guide's own pet hammerhead.*

*Continued*


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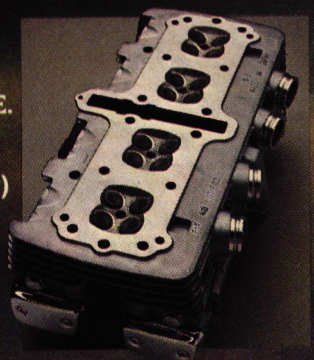
# Sweet Sixteen.



Behold. Suzuki's 16-valve masterpiece.
It's the new-era engine that powers the 1981 GS-750E.
Briefly put, it's a 4-stroke DOHC 4-cylinder powerhouse with 16 valves and Twin Swirl Combustion Chambers. But enough of brevity.
Let's get down to the fine points. (Because there are many fine points.)

To begin with, the configuration of this remarkable engine is not unlike the mighty mills used in most of today's high-powered Indy machines.

That is, it's a short-stroke, big-bore design that utilizes flat-topped racing pistons, 4 valves per cylinder and centrally-located spark plugs.

Basically, the idea behind this design is to boost power by allowing a steady and healthy dose of air/fuel mixture to flow quickly into the combustion chambers—and to burn it just as quickly.

And, basically, that is why the GS-750E has so much power and throttle response.

But Suzuki went far beyond basics. Besides power, Suzuki wanted an engine that also burned fuel cleanly and delivered exceptionally good gas mileage.

Which brings us to Twin Swirl Combustion Chambers. Within each chamber is a ridge which separates and precisely controls the incoming air/fuel mixture. This action produces two incredibly high-speed swirls of mixture. Thus, when it is ignited by the centrally-located spark plug, combustion is quick and clean.

Interestingly enough, the whole process is so efficient that not only does fuel consumption go down, power goes up.

That, friends, is a general overview of this amazing engine.

Perhaps even more amazing are its ingenious subtleties.

For instance, note the wide spacing between the valves. This minimizes shrouding and mutual interference.

Notice too, the unusually shallow angle (40-degree) of the valves. This allows the use of flat-topped pistons so incoming mixture won't be restricted.

Another nice touch can be found on the valve clearance adjusters. They're set-screw for easy, simple adjusting.

Even the crankshaft bearings are made of specially compounded material. So they'll run cooler and last longer.

And so it goes with this incredible power source.

Lest you think there's nothing else to this great bike than a great engine, think again. Triple slotted brakes, front air forks, multi-adjustable shocks, transistorized ignition, Halogen headlight and electric fuel gauge are just part of the GS-750E package.

And to top it all off, this beautiful machine is backed by a 12-month unlimited mileage warranty.*

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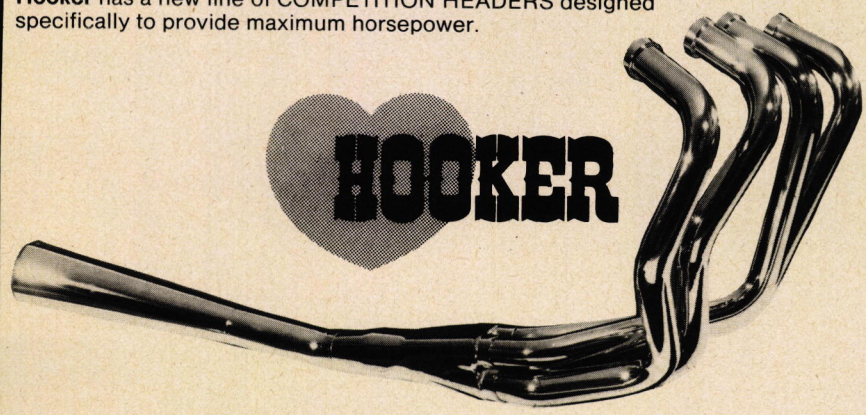


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**Doing the final tune on the racer**

*A polished surface means added mph.*

plan was to document a top speed in excess of a chest-crushing 35 mph.

Any race bike's mystique isn't confined to pure performance, though. Bench racing is a vital part of the whole process. The Yamahopper fit perfectly into the Land Shark project because Yamaha's QT50 is trick enough to drop into any bull session. Just try mentioning that your racer is a production bike with shaft drive, Monoshock and an automatic transmission and see the reaction *you* get.

Converting the QT from standard-issue noped into top-speed Land Shark was mercifully easy. First, the speedometer was taped up so that it would show only speeds over 25 mph. No point in getting distracted with the small stuff. Then number plates were bolted in place, safety wire was twisted on, and head- and taillights were taped up. Performance tuning consisted of a fresh spark plug. As a note of subtle racecraft, the QT's key fob was drilled for lightness.

With Land Shark fully prepped, it came time to search for an appropriate testing

**Crew readies Land Shark at El Mirage**

*First you flip up the padded gas cap.*

*Continued*

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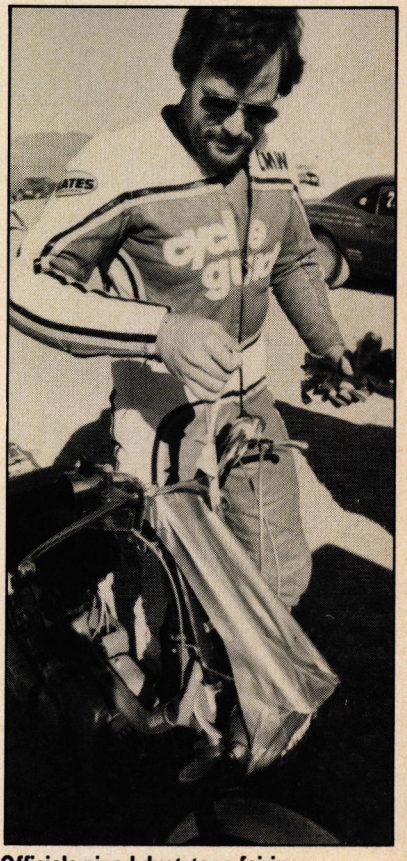
venue. There are, of course, a variety of ways to document top speed. One of the quickest—and most expensive—is to attract the attention of a passing black-and-white, slip into a full racing crouch with the throttle wide open and wait for the inevitable roadblock. As they're slipping the bracelets in place, you politely inquire how fast they clocked you. It wouldn't have worked with Land Shark, though. The sub-limit speeds the QT produces never would have triggered the CHP's motion detectors. We chose the Bonneville Salt Flats instead.

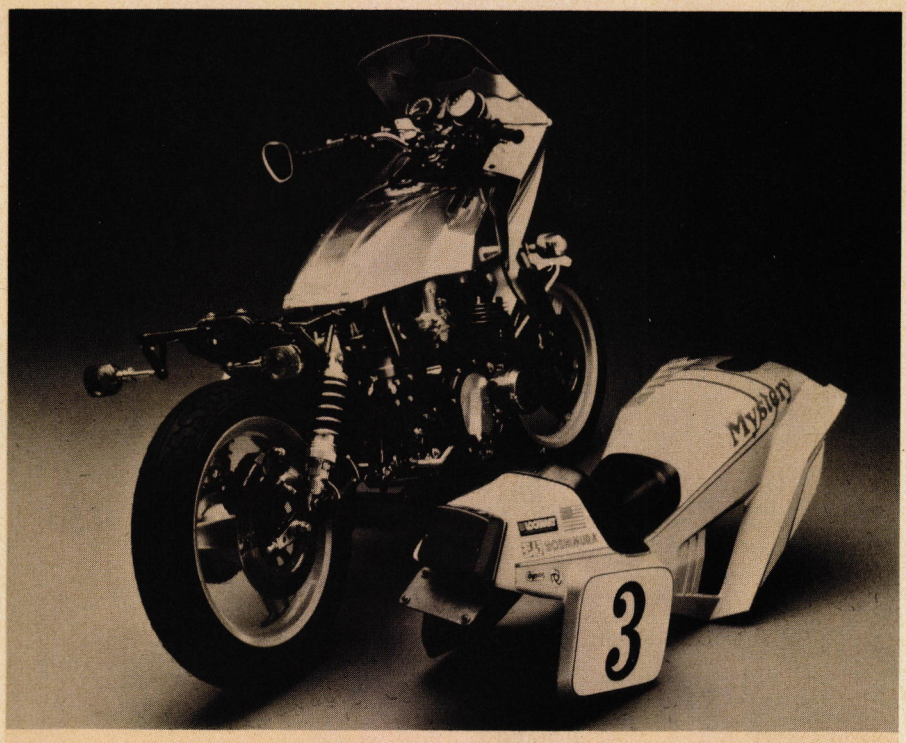
But the dark skies over Salt Lake City foretold of the disaster that loomed ahead. When Team CYCLE GUIDE arrived at the Flats, the Flats were under water. Driving rain spelled a Bonneville Speed Week in which it looked like nothing would be running—except maybe the marlin. So Land Shark's maiden voyage was delayed. By the time the Flats had dried up enough to allow top-speed runs, Land Shark was berthed back in the CYCLE GUIDE garage . . . waiting.

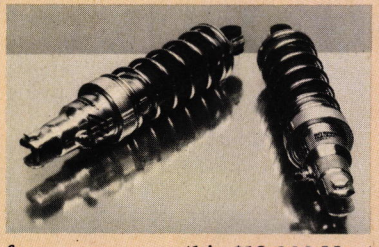
El Mirage Dry Lake provided the next outing for Land Shark—and the last Southern California Timing Association speed run of the season. After sign-in and tech, we rolled Land Shark to the staging lane. We revved the engine to keep it warm in the early-morning chill, while the line grew shorter as each vehicle at the front launched itself onto the 1.3-mile course.



**Officials nixed duct-tape fairing**

*Calling for an emergency nose job.*



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*Honing Land Shark's teeth for a savage attack on the record.*

This would be no repeat of Bonneville. There wasn't a cloud to be seen and it hadn't rained for months. Then, a fouled plug as the line grew shorter threatened to drydock Land Shark for good. Out of the clouds of dust that were blowing across the dry lake came the answer. A wandering mechanic—call him Eddie—walked over with "the trick plug" for the QT. The electrode was bent to the side and it looked like hell, but it worked. Land Shark revved like it had never revved before, and 35 mph seemd within its grasp.

But it was not meant to be. The dust storm blew harder and harder; the time between runs lengthened. Finally, Land Shark was the next in line to make its run. Twenty minutes passed at the head of the line, waiting for the wind and the dust to settle. Twenty minutes waiting for the starter to wave me on. Twenty minutes before the event was called on account of 90-mph winds.

That was the end of Land Shark, but perhaps not the end of the project. Who knows, next season we might be back with Jaws 2. After all, in all the dry lakes of the world did you think there was just one?

*—Larry Works*

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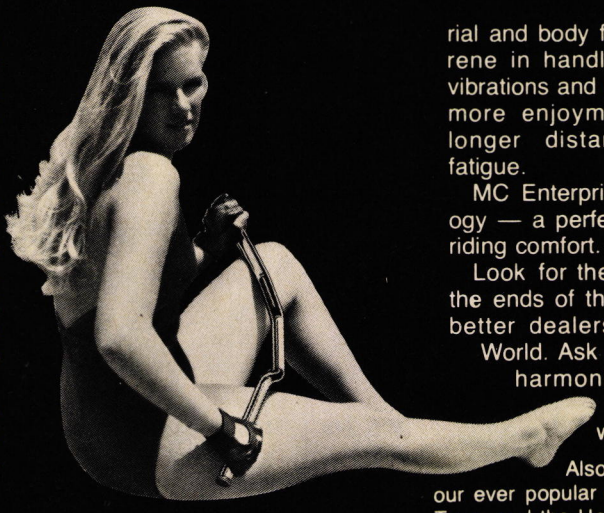

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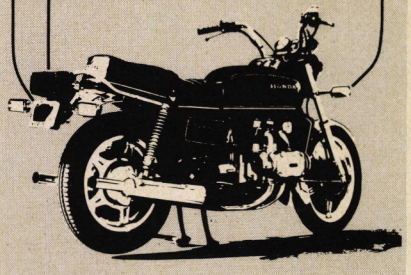

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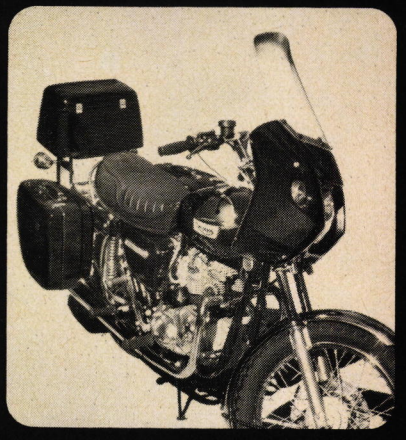

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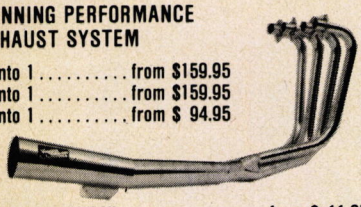

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But looking at a motorcycle is only half the fun.

The other half is riding it.

Press the electric starter of the CB650 Custom and listen to the engine.

It's a 627 cc classic Honda four-stroke, four-cylinder engine—legendary for power and reliability.

Complete with a compact automotive style alternator to reduce engine width for extra cornering clearance.

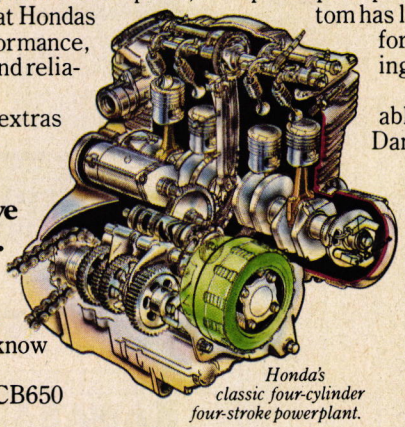
New for this year, it's hooked up to four 26 mm constant velocity carburetors and an accelerator pump for smoother throttle response. And less throttle return spring pressure.

The handling complements the powerplant perfectly. The CB650 Custom has leading axle air-adjustable forks with Syntallic™ bushings up front.

And five-way adjustable Variable Hydraulic Damping™ shocks in back.

All in all it's a package that allows you to arrive in style.

And arrive early.



*Honda's classic four-cylinder four-stroke powerplant.*

## Less tinkering, more riding.

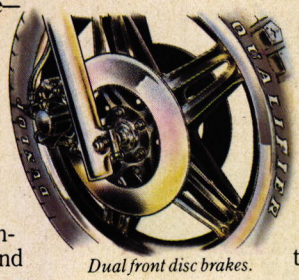
There's more than one way to pay for a motorcycle.

Because after you buy it, you've still got to maintain it.

And that's where the CB650 Custom may have another advantage.

After more than a decade of building four-cylinder motorcycles, Honda has had plenty of practice making them as trouble-free as possible.

The CB650 Custom's ignition is a transistorized design that does away with points and the servicing that goes with them.



*Dual front disc brakes.*

Unlike spoke wheels, Honda's ComStars never need tightening or truing.

The dual disc brakes up front need no routine adjustment either. Because they're self-adjusting.

Even the chain has been designed to reduce fiddling. It's a high performance #530 sealed "O" ring that's internally lubricated.

When there is work to be done, many owners find that it's easy to do yourself. Take adjusting the valves, for instance.

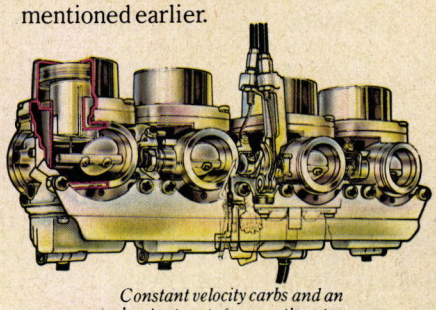
Instead of requiring an expensive trip to the shop, it can be done with a couple of wrenches, and a feeler gauge at home.

## And at no additional charge...

With the price you're paying for all this beauty and performance the last thing you expected was extras, right?

Wrong.

The CB650 Custom comes with the dual front disc brakes that were mentioned earlier.



*Constant velocity carbs and an accelerator pump for smooth response.*

And vibration-resistant mirrors and vibration-resistant passenger footpegs.

Plus a halogen headlight and full instrumentation.

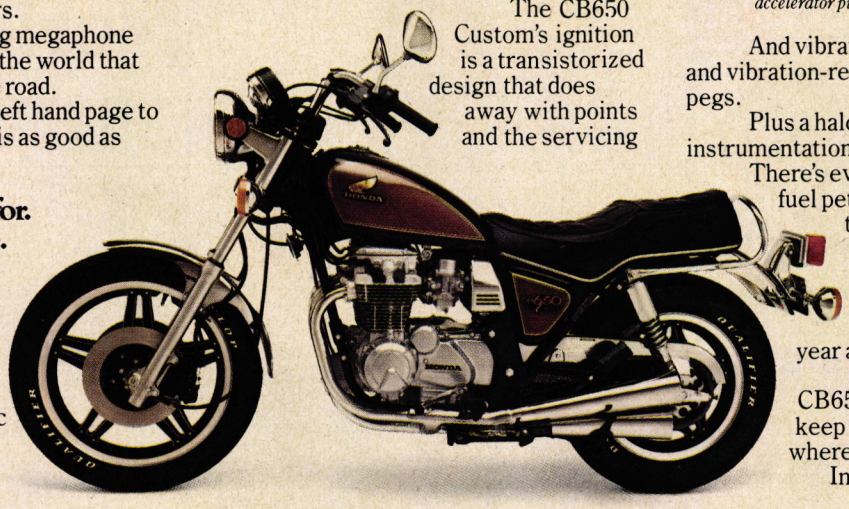
There's even a vacuum-operated fuel petcock that you never have to remember to turn off.

Which brings us to the best feature of all.

The kind of gas mileage you'll be thankful for year after year.

Just one more way the CB650 Custom can help keep your bank account where it belongs.

In the bank.



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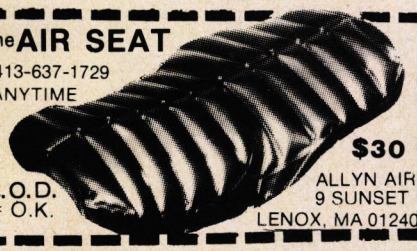

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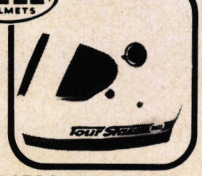

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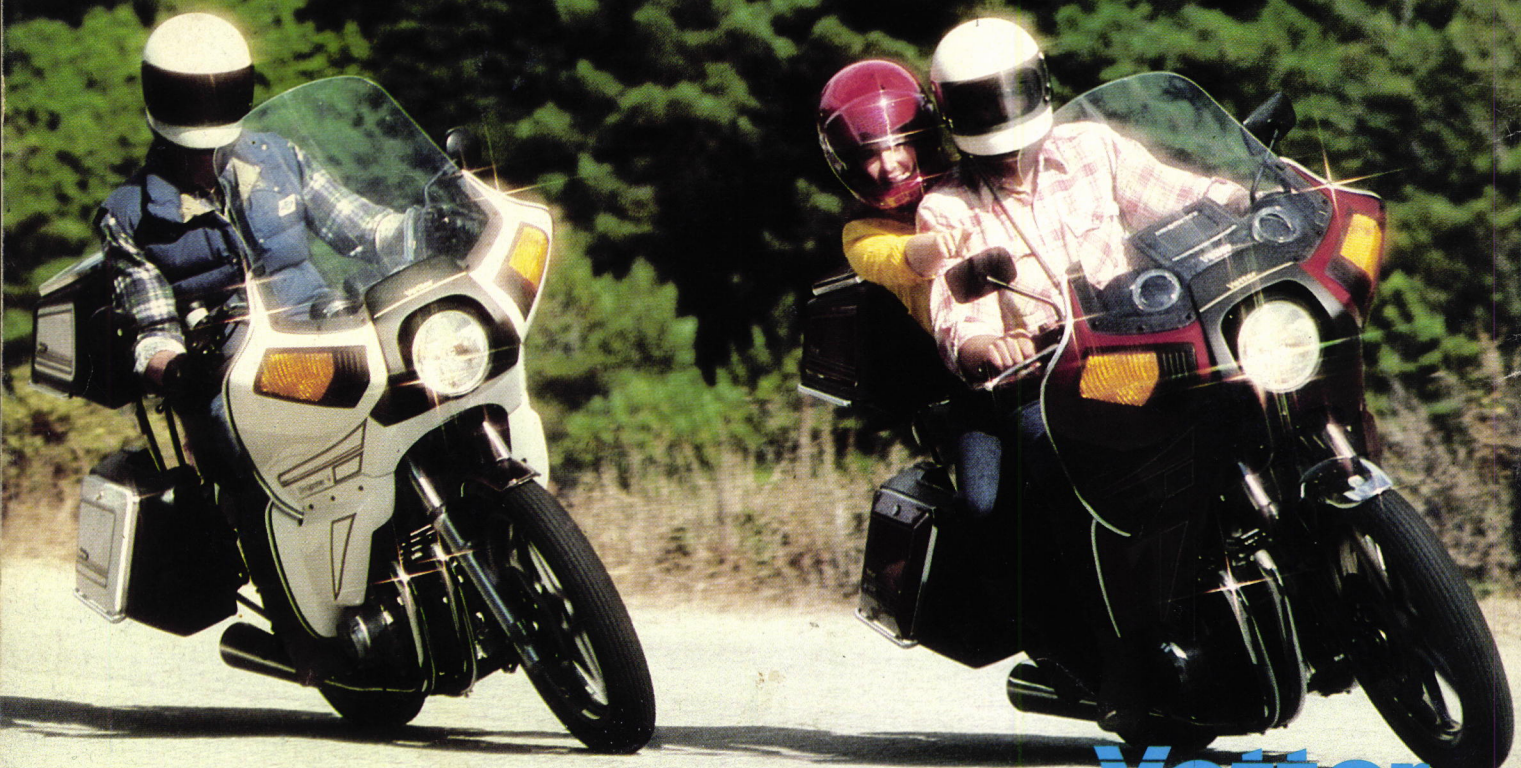

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